

# JINGNAN DU

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## ACADEMIC POSITIONS

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University of Notre Dame, Department of Psychology <i>Incoming Assistant Professor</i>	Starting 2026.7
Harvard University, Department of Psychology, Center for Brain Science <i>Postdoctoral Researcher, PI: Randy L. Buckner</i>	2021.7 - present
MIT, Department of Brain and Cognitive Sciences <i>Visiting Postdoc, PI: Evelina Fedorenko</i>	2025.8 - present

## EDUCATION

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Harvard University, Department of Psychology, Center for Brain Science <i>Visiting Ph.D. in Cognitive, Brain and Behavior, PI: Randy L. Buckner</i>	2019.9 - 2021.6
Fudan University, Institute of Science and Technology for Brain-inspired Intelligence <i>Ph.D. in Applied Math, Track: Computational Cognitive Neuroscience, PI: Jianfeng Feng</i>	2015.9 - 2021.6
Fudan University, Department of Mathematics, <i>M.S. in Mathematics, PI: Engui Fan / Jianfeng Feng</i>	2015.9 - 2018.7
Xidian University, Department of Mathematics <i>B.A. in Applied Mathematics</i>	2011.9 - 2015.6

## PUBLICATIONS

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### Journal Publications

- 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." *Nature Communications* 2026. [[pdf](#)]
- Lynch CJ, Chang M, Elbau I, Gordon EM, Laumann TO, **Du J**, et al. "Objective Quality Assessment for Precision Functional MRI Data." *bioRxiv* 2026. [[pdf](#)]
- Hanford LC, Eshghi M, **Du J**, Buckner RL, Mair RW, Ge T, Juttukonda MR, Salat DH. "Age-associated structural decline is linked to arterial flow territories in the brain: Insights from lifespan human connectome project in aging." *medRxiv* 2026. [[pdf](#)]
- 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](#)]
- Libowitz MR, Sun W, Rabinovich R, **Du J**, Campbell JM, Cowan RL, Shahdoust N, Price TA, Davis TS, Buckner RL, et al. "Increased Aperiodic Exponents Track Depression Symptom Severity." *bioRxiv* 2025. [[pdf](#)]
- 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](#)]

7. 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. [\[pdf\]](#)
8. 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. [\[pdf\]](#)
9. **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. [\[pdf\]](#)
10. Kosakowski HL, Saadon-Grosman N, **Du J**, Eldaief MC, Buckner RL. “Human striatal association mega-clusters.” *Journal of Neurophysiology* 131:1083-100, 2024. [\[pdf\]](#)
11. 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)
12. **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. [\[pdf\]](#)
13. 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. [\[pdf\]](#)
14. **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. [\[pdf\]](#)
15. **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. [\[pdf\]](#)
16. 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)
17. **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. [\[pdf\]](#)
18. 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. [\[pdf\]](#)
19. **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. [\[pdf\]](#)
20. 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)
21. 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. [\[pdf\]](#)
22. 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. [\[pdf\]](#)
23. 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. [\[pdf\]](#)
  24. 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. [\[pdf\]](#)
  25. 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. [\[pdf\]](#)
  26. 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

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1. “Organization of Human Large-Scale Brain Networks Estimated Within Individuals”, *Stanford University, Department of Psychology, Russell Poldrack’s lab*, Stanford, 2026.2 - one-week academic visit.
2. “Precision Neuroimaging of the Brain”, *Session I: State of the Art: Brain Imaging, MIT Medical Imaging Initiative Symposium, Held at American Academy of Arts and Sciences*, Cambridge, 2026.1. [\[link\]](#)
3. “Organization of Human Large-Scale Brain Networks Estimated Within Individuals”, *Monash University, Alex Fornito’s Neural Systems and Behaviour Lab*, Melbourne (virtual), 2025.11.
4. “Organization of Human Large-Scale Brain Networks Estimated Within Individuals”, *University of Notre Dame, Department of Psychology*, South Bend, 2025.11.
5. “Organization of Human Large-Scale Brain Networks Estimated Within Individuals”, *Massachusetts Institute of Technology, Ev Fedorenko’s Language Lab*, Cambridge, 2025.11.
6. “Organization of Human Large-Scale Brain Networks Estimated Within Individuals”, *Peking University, School of Psychological and Cognitive Sciences*, Beijing (virtual), 2025.11.
7. “Mapping Precision Functional Networks in an Individual’s Brain”, *Tsinghua University, Department of Psychological and Cognitive Sciences*, Beijing (virtual), 2025.10.
8. “Mapping Precision Functional Networks in an Individual’s Brain”, *University of Delaware, Cognitive Area Seminar*, Newark (virtual), 2025.10.
9. “Organization of Human Large-Scale Brain Networks Estimated Within Individuals”, *Harvard University, Department of Psychology*, Cambridge, 2025.10.
10. “Mapping Precision Functional Networks in an Individual’s Brain”, *South China Normal University, Multimodal Mind Seminar*, Guangzhou (virtual), 2025.10.
11. “Organization of the Human Cerebral Cortex Estimated Within Individuals”, *Harvard University, CBS Neurolunch Seminar*, Cambridge, 2025.10.
12. “Within-individual Precision Mapping of Brain Networks”, *Chinese Institute for Brain Research*, Beijing (virtual), 2025.3.
13. “Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function”, *Mass General Hospital, Center for Genomic Medicine*, Boston, 2025.2.
14. “Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Func-

- tion”, *Stanford University, Department of Linguistic, Cory Shain’s lab*, Stanford (virtual), 2024.11.
15. “Estimating Precision Brain Networks Using Task Data: Correspondence to Passive Fixation, Predictive Validity, and New Opportunities”, *Harvard University, Department of Psychology*, Cambridge, 2024.10.
  16. “Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function”, *Beijing Normal University, IDG McGovern Institute / Psychology*, Beijing (virtual), 2024.8.
  17. “Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function”, *Fudan University, ISTBI*, Shanghai (virtual), 2024.7.
  18. “Precision Mapping Using a Novel Multi-Session Hierarchical Bayesian Model”, *Harvard University, Center for Brain Science*, Cambridge, 2024.5.
  19. “Estimating Cortical Networks Using a Multi-Session Hierarchical Bayesian Model”, *Harvard University, Department of Psychology*, Cambridge, 2022.7.
  20. “Brain Aging and Alzheimer’s disease in the UK Biobank”, *Harvard University, Department of Psychology*, Cambridge, 2020.9.
  21. “Comparative Network Homology in Human and Marmoset Monkey Brains”, *Harvard University, Department of Psychology*, Cambridge, 2020.3.

## CONFERENCE PRESENTATIONS

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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. Sun W, Libowitz MR, Feldman D, **Du J**, Davis T, Rahimpour S, Smith EH, King J, Buckner RL, Shofty B. “Towards a Biomarker for Circuit Dysfunction in Neuropsychiatric Disease: Network Antagonism Measured Within Individuals Using Precision Neuroimaging and Intracranial Electroencephalography.” *ASSFN, Cleveland 2026*.
3. **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*.
4. 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*.
5. 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*.
6. 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*.
7. **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*.
8. **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*.
9. 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.*

10. 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.*
11. 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.*
12. **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.*
13. **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**

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Proceedings of the National Academy of Sciences (PNAS)  
Nature Biomedical Engineering  
Nature Communications  
Developmental Cognitive Neuroscience  
Neurology  
BMC Medicine  
Science Bulletin  
Patterns  
Human Brain Mapping  
Translational Psychiatry  
Neuropsychopharmacology

## **PROFESSIONAL MEMBERSHIP**

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

## **TEACHING**

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

## **MENTORING**

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### **Mentees:**

Jennie Li, Visiting Undergraduate Student at Harvard University (2020 - 2021; Current: Graduate Student in Computational Biology at Cornell University)  
Wendy Sun, Junior MD-PhD student at Harvard University (2021 -)  
Joanna Ladopoulou, Research Assistant at Harvard University (2022 - 2024; Current: PhD Student in Clinical Psychology at the University of Southern California)  
Stephanie Kaiser, Research Assistant at Harvard University (2022 - 2023; Current: Project Coordinator at San Diego State University)  
Lin Du, Visiting Graduate Student at Harvard University (2025 -)

Abbey Russell, Research Assistant at Harvard University (2025 -)  
Ella Rowsthorn, OHBM Mentee (2025 -; Current: PhD Candidate at Monash University)  
Negin Javaheri, OHBM Mentee (2025 -; Current: PhD Candidate at University of Bremen)  
Natalie Delpratt, OHBM Mentee (2026 -; Current: PhD student at Albert Einstein College of Medicine)  
Yen-Wen Chen, OHBM Mentee (2026 -; Current: Postdoctoral Associate Biostatistics at George Washington University)  
Junglin Choi, OHBM Mentee (2026 -; Current: PhD student in Biostatistics at Johns Hopkins University)  
**PPREP Mentor**, Harvard Prospective PhD and RA Event in Psychology (2024 - 2025)

## **HONORS AND AWARDS**

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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**

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

## **SKILLS**

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