

Xi Chen, Ph.D.

Department of Psychology
Stony Brook University
Psychology B Building, B 220
Stony Brook, NY 11794-2500
Email: xi.chen.8@stonybrook.edu

EMPLOYMENT

Assistant Professor, Integrative Neuroscience January 2024 - present
Stony Brook University, SUNY
Department of Psychology
Department of Psychiatry, Renaissance School of Medicine

Postdoc January 2020 – December 2023
University of California, Berkeley
Lawrence Berkeley National Laboratory
Advisor: Dr. William Jagust

EDUCATION

Ph.D. Cognition and Neuroscience December 2019
The University of Texas at Dallas
Dissertation: *Functional Activity Features in Successful Cognitive Aging*
Committee: Dr. Denise Park (Chair), Dr. Michael Rugg, Dr. Kristen Kennedy, Dr. Jackie Nelson

M.S. Applied Cognition and Neuroscience May 2014
The University of Texas at Dallas

B.S. Psychology July 2012
Beijing Normal University

RESEARCH INTERESTS

- Individual differences in memory aging: successful aging, normal aging, and Alzheimer's disease
- Cognitive health disparities and socioeconomic factors
- Multi-modal neuroimaging (MRI, PET) of brain abnormalities in aging
- Statistical and computational modeling approaches in large-scale, longitudinal data

GRANTS and AWARDS

The BrightFocus Alzheimer's Disease Research Postdoctoral Fellowship Grant (2021-2023)

Role: Principal Investigator

Award: \$200,000

Project Title: The relationship between amyloid/tau pathology and different memory processes underlying memory aging

Sallie P. Asche Travel Award at the Dallas Aging & Cognition Conference (\$500) (2023)

Young Investigator Travel Scholarship at Human Amyloid Imaging Conference (\$800) (2023)

Alzheimer's Association International Conference Fellowship Award (2023, 2022, 2018)

Tau2022 Global Conference Fellowship Award (2022)

The 3rd Reserve & Resilience Workshop Travel Scholarship (\$800) (2021)

Outstanding Volunteer, Lawrence Berkeley National Laboratory K-12 Program (2021)

PhD Dissertation Research Grant (\$500), University of Texas at Dallas (2019)

Competitive Student Scholarship (\$1000 + Tuition Reduction), University of Texas at Dallas (2012-2013)

PEER-REVIEWED PUBLICATIONS

Chen, X., Toueg, T. N., Harrison, T. M., Baker, S. L., & Jagust, W. J. (2024). Regional tau deposition reflects different pathways of subsequent neurodegeneration and memory decline in cognitively normal older adults. *Annals of Neurology*, *95*(2), 249-259. doi: [10.1002/ana.26813](https://doi.org/10.1002/ana.26813).

Ziontz, J., Harrison, T. M., **Chen, X.**, Giorgio, J. J., Adams, J. N., Wang, Z., & Jagust, W. J. (2024). Behaviorally meaningful functional networks mediate the effect of Alzheimer's pathology on cognition. *Cerebral Cortex*, *34*(4), bhae134. doi: [10.1093/cercor/bhae134](https://doi.org/10.1093/cercor/bhae134).

Munro, C. E., Boyle, R., **Chen, X.**, Coughlan, G., Gonzalez, C., Jutten, R., Martinez, J., Orlovsky, I., Robinson, T., Weizenbaum, E., Pluim, C., Quiroz, Y., Gatchel, J., Vannini, P., & Amariglio, R. (2023). Recent contributions to the field of subjective cognitive decline: a review. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*. *15*:e12475. doi: [10.1002/dad2.12475](https://doi.org/10.1002/dad2.12475).

Cassady, K. E., **Chen, X.**, Adams, J. N., Harrison, T. M., Zhuang, K., Maass, A., Baker, S., & Jagust, W. J. (2023). Effect of Alzheimer's pathology on task-related brain network reconfiguration in aging. *Journal of Neuroscience*. *43*(38), 6553-6563. doi: [10.1523/JNEUROSCI.0023-23.2023](https://doi.org/10.1523/JNEUROSCI.0023-23.2023).

Chen, X., Rundle, M. M., Kennedy, K. M., Moore, M., & Park, D. C. (2022). Functional activation features of memory in successful agers across the adult lifespan. *NeuroImage*, 119276. doi: [10.1016/j.neuroimage.2022.119276](https://doi.org/10.1016/j.neuroimage.2022.119276).

Chen, X., Varghese, L., & Jagust, W. J. (2022). A double-edged sword: the role of prior knowledge on associative memory in young, middle-aged, and older adults. *Frontiers in Aging Neuroscience*. doi: [10.3389/fnagi.2022.874767](https://doi.org/10.3389/fnagi.2022.874767).

Zhuang, K., **Chen, X.**, Cassady, K. E., Baker, S. L., & Jagust, W. J. (2022). Metacognition, cortical thickness, and tauopathy in aging. *Neurobiology of Aging*, 118, 44-54. doi: [10.1016/j.neurobiolaging.2022.06.007](https://doi.org/10.1016/j.neurobiolaging.2022.06.007).

Hennesseea, J. P., Webb, C. E., **Chen, X.**, Kennedy, K. M., Wig, G., & Park, D. C. (2022). Relationship of prefrontal brain lateralization to optimal cognitive function differs with age. *NeuroImage*, 119736. doi: [10.1016/j.neuroimage.2022.119736](https://doi.org/10.1016/j.neuroimage.2022.119736).

Chen, X., Cassady, K. E., Adams, J. N., Harrison, T. M., Baker, S. L., & Jagust, W. J. (2021). Regional tau effects on prospective cognitive change in cognitively-normal older adults. *Journal of Neuroscience*. 41(2), 366-375. doi: [10.1523/JNEUROSCI.2111-20.2020](https://doi.org/10.1523/JNEUROSCI.2111-20.2020).

Chen, X., Farrell, M. E., Rundle, M. M., Chan, M. Y., Moore, W., Wig, G. S., & Park, D. C. (2021). Hippocampal function, amyloid pathology, and longitudinal memory decline as predictors of subjective cognitive decline. *Neurobiology of Aging*, 105, 318-326. doi: [10.1016/j.neurobiolaging.2021.04.020](https://doi.org/10.1016/j.neurobiolaging.2021.04.020).

Cassady, K. E., Adams, J. N., **Chen, X.**, Maass, A., Harrison, T. M., Landau, S. M., Baker, S. L., & Jagust, W. J. (2021). Alzheimer's pathology is associated with dedifferentiation of functional memory networks in aging. *Cerebral Cortex*, 31(10), 4781-4793. doi: [10.1093/cercor/bhab122](https://doi.org/10.1093/cercor/bhab122).

Chen, X., Farrell, M. E., Moore, W., & Park, D. C. (2019). Actual memory as a mediator of the amyloid-subjective cognitive decline relationship. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*, 11, 151-160. doi: [10.1016/j.dadm.2018.12.007](https://doi.org/10.1016/j.dadm.2018.12.007).

Chen, X., Zhang, M., & Liu, X. L. (2019). Retrieval practice promotes judgments of learning through multiple mechanisms: simultaneous and independent contribution of retrieval confidence and retrieval fluency. *Frontiers in Psychology*, 10, 987. doi: [10.3389/fpsyg.2019.00987](https://doi.org/10.3389/fpsyg.2019.00987).

Zhang, M., **Chen, X.**, & Liu, X. L. (2019). Confidence in accuracy moderates the benefits of retrieval practice. *Memory*, 27(4), 548-554. doi: [10.1080/09658211.2018.1529796](https://doi.org/10.1080/09658211.2018.1529796).

Farrell, M. E., **Chen, X.**, Rundle, M. M., Chan, M. Y., Wig, G. S., & Park, D. C. (2018). Early detection of longitudinal amyloid-related cognitive decline in middle-aged and initially amyloid-negative adults. *Neurology*. 91(19), e1809-1821. doi: [10.1212/WNL.0000000000006469](https://doi.org/10.1212/WNL.0000000000006469).

- Peng, S-L., **Chen, X.**, Li, Y., Rodrigue, K. M., Park, D. C., & Lu, H. (2018). Age-related changes in cerebrovascular reactivity and their relationship to cognition and hypertension: a four-year longitudinal study. *NeuroImage*, 174, 257-262. doi: [10.1016/j.neuroimage.2018.03.033](https://doi.org/10.1016/j.neuroimage.2018.03.033).
- De Vis, J. B., Peng, S. L., **Chen, X.**, Li, Y., Liu, P., Sur, S., Rodrigue, K. M., Park, D. C., & Lu, H. (2018). Arterial-spin-labeling (ASL) perfusion MRI predicts cognitive function in elderly individuals: A 4-year longitudinal study. *Journal of Magnetic Resonance Imaging*, 48(2), 449-458. doi: [10.1002/jmri.25938](https://doi.org/10.1002/jmri.25938).
- Song, Z., Farrell, M. E., **Chen, X.**, Park, D. C. (2018). Longitudinal accrual of neocortical amyloid burden is associated with microstructural changes of the fornix in cognitively-normal adults. *Neurobiology of Aging*, 68, 114-122. doi: [10.1016/j.neurobiolaging.2018.02.021](https://doi.org/10.1016/j.neurobiolaging.2018.02.021).
- Chen, X.**, Hertzog, C., & Park, D. C. (2017). Cognitive predictors of everyday problem solving across the lifespan. *Gerontology*. 63(4), 372-384. doi: [10.1159/000459622](https://doi.org/10.1159/000459622).
- Farrell, M. E., Kennedy, K. M., Rodrigue, K. M., Wig, G., Bischof, G. N., Rieck J. R., **Chen, X.**, Festini, S. B., & Park, D. C. (2017). Association of longitudinal cognitive decline with amyloid burden in middle-aged and older adults: evidence for a dose-response relationship. *JAMA neurology*, 74(7), 830-838. doi: [10.1001/jamaneurol.2017.0892](https://doi.org/10.1001/jamaneurol.2017.0892).

Manuscripts under review

- Chen, X.**, Juarez, A., Baker, S. L., Harrison, T. M., Landau, S. M. & Jagust, W. J. (under review). Longitudinal effects of A β on executive function and tau on memory in cognitively normal older adults.
- Sharon, O., **Chen, X.**, Dude, J., Shah, V. D., Ju, Y. E. S., Jagust, W. J., & Walker, M. P. (under review). Tau pathology leads to lonely non-traveling slow waves that mediate human memory impairment.
- Feng, H., Lee, J., **Chen, X.**, Jacob, Z., Ward, T., Landau, S. M., Baker, S. L., Harrison, T. M., & Jagust, W. J. (under review). Global brain activity and its coupling with cerebrospinal fluid flow is related to tau pathology.
- Pezzoli, S. P., Giorgio, J., **Chen, X.**, Ward, T. J., Harrison, T. M., & Jagust, W. J. (under review). Cognitive aging outcomes are related to both tau pathology and maintenance of cingulate cortex structure.

Manuscripts in preparation

- Chen, X.** & Hou, M. (in prep). Changes in neural activation and connectivity in preclinical Alzheimer's disease: a review of fMRI and PET studies in cognitively normal adults.

INVITED TALKS

Using multi-domain cognition to detect early AD deficits as early as possible. Charleston Conferences on Alzheimer's Disease, 2024.

Early Alzheimer's disease (AD) pathology leads to neurodegeneration and multi-domain cognitive decline in preclinical AD. Peking University Shenzhen Bay Laboratory, Tengfei GUO Group, 2023.

Early Alzheimer's pathology and cognitive decline in preclinical Alzheimer's disease. Fudan University Huashan Hospital PET Center, Fang XIE Group, 2023.

Location, location, location: regional tau deposits in healthy elders predict cognitive decline. ISTAART PIA PEERs Asian Webinar, 2022.

Individual differences in memory aging: from successful aging to early Alzheimer's disease. Purdue University, 2022.

Memory function in normal aging and early Alzheimer's disease. Berkeley Neuroscience Conference, 2022.

Memory function in successful, normal, and pathological aging. Peking University Shenzhen Bay Laboratory, Tengfei GUO Group, 2021

Regional tau burden predicts longitudinal memory decline in cognitively normal older adults. Bay Area Memory Meeting, 2020.

Memory aging and the early stages of Alzheimer's disease. Stanford University, Beth Mormino Group, 2019.

Hippocampal function, amyloid pathology, and longitudinal memory decline as predictors of subjective cognitive decline. Dallas & Austin Area Memory Meeting, 2019.

Cognitive Predictors of Everyday Problem Solving across the Lifespan. University of Texas at Dallas, 2017.

CONFERENCE ORAL PRESENTATIONS

Chen, X., Juarez, A., Baker, S., Harrison T., Landau, S., & Jagust, W. (2023). A β accumulation associated with executive function decline and tau accumulation associated with memory decline in cognitively normal older people. Alzheimer's Association International Conference, Amsterdam, Netherlands.

Chen, X. & Park, D. C. (2019). Brain activity differences between successful and unsuccessful agers. Society for Neuroscience, Chicago, USA.

Chen, X., Jingting, Z., Farrell, M. E., & Park, D. C. (2018). Subjective memory complaints reflect functional deficits in the hippocampus and elevated amyloid burden in cognitively normal adults. Alzheimer's Association International Conference, Chicago, USA.

Chen, X., Farrell, M. E., & Park, D. C. (2017). Actual memory decline mediates the effect of amyloid burden on subjective memory in cognitively normal adults. Alzheimer's Association International Conference, London, UK.

Chen, X., Festini, S. B., McDonough, I. M., & Park, D. C. (2016). Cognitive Change Across the Lifespan: Four-year longitudinal findings in the Dallas Lifespan Brain Study (DLBS). International Psychonomic Society Meeting, Granada, ES. Presented by Festini, S. B.

PROFESSIONAL SERVICES

Journal Editorial Service

- Journal of Neuroscience, ECR Advisory Board (2023-2025)

Scientific Judging Committee

- Alzheimer's Association International Conference Abstract Reviewer
- Organization for Human Brain Mapping Abstract Reviewer
- de Leon Prize in Neuroimaging Voting Committee (2021, 2022)

Ad Hoc Reviewer: Grants

- Swiss National Science Foundation

Ad Hoc Reviewer: Journals

- Alzheimer's & Dementia
- Alzheimer's & Dementia: Diagnosis, Assessment, & Disease Monitoring
- Behavioural Brain Research
- BMC Geriatrics
- Brain Sciences
- Dementia and Geriatric Cognitive Disorders
- European Journal of Nuclear Medicine and Molecular Imaging
- Experimental Aging Research
- Frontiers in Aging Neuroscience
- Journal of Alzheimer's Disease
- Journal of Neuroscience
- Neurobiology of Aging
- NeuroImage
- NeuroImage: Clinical
- Psychology and Aging

TEACHING EXPERIENCE

Stony Brook University

Survey in Biopsychology (undergraduate): Spring 2024, Fall 2024

Invited Guest Teaching

The Aging Human Brain, University of California, Berkeley (undergraduate): Fall 2023

Cognitive Psychology, University of Texas at Dallas (undergraduate): Spring 2020

MENTORING EXPERIENCE

Mentored Students

- Samantha Bruk (Master student, Stony Brook University)
- Russell Erfan (Undergraduate student, Stony Brook University)
- Srinidhi Nagarajan (Undergraduate student, University of California, Los Angeles)
- Banoo Afkhami (Undergraduate student, Berkeley City College)
- Arin Chang (Undergraduate student, University of California, Berkeley)
- Johana Evans (High school intern, Antioch High School)
- Suhina Sharma (Undergraduate student, University of California, Berkeley)
- Tyler Toueg (PhD student, University of California, Berkeley)
- Leah Varghese (Undergraduate student, University of California, Berkeley)
- Jakob Weiner (Undergraduate student, University of California, Santa Barbara)
- Kailin Zhuang (Post-baccalaureate researcher, University of California, Berkeley)

PROFESSIONAL MEMBERSHIPS

- Cognitive Neuroscience Society
- International Society to Advance Alzheimer's Research and Treatment (ISTAART)
- Organization for Human Brain Mapping
- Psychonomic Society
- Society for Neuroscience