



## TEACHING EXPERIENCE

- 2024 **Guest lecturer in Cognitive Science** at The University of Texas at Dallas
- 2022 **Intro to Resting-state fMRI Preprocessing and Brain Network Analysis**  
Center for Vital Longevity, The University of Texas at Dallas
- 2021 **Guest lecturer in Practical Research Computing** at The University of Texas at Dallas
- 2020 **Git/GitHub Workshop** at Office of Information and Technology, The University of Texas at Dallas
- 2019 **Git/GitHub Workshop** at Brainhack Dallas 2019 (Brainhack Global 2019)
- 2019 **FreeSurfer Training – FreeSurfer Overview and Editing using FreeView** at Center for Vital Longevity, The University of Texas at Dallas
- 2008 **Teaching Assistant and Student Supervisor – Girls Advocacy Project**  
University of Illinois at Urbana-Champaign, Department of Psychology  
Faculty Supervisor: *Dr. Nicole E Allen* | Supervisor: *Shabnam Javdani*, doctoral candidate
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## AWARDS & SCHOLARSHIPS

- 2024 4<sup>th</sup> place in PREPARE Challenge: Data for Early Prediction (Phase 1); Wig Neuroimaging Lab team.
- 2017 Best Dissertation Award in the School of Behavioral and Brain Sciences at The University of Texas at Dallas
- 2015 Travel award from the BBS at The University of Texas at Dallas for presenting at Society for Personality and Social Psychology 2015
- 2013 Travel award from the BBS at The University of Texas at Dallas for presenting at Society for Neuroscience
- 2012 Travel award from the BBS at The University of Texas at Dallas for presenting at Society for Neuroscience
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## RESEARCH FUNDING

- 2017-2019 National Science Foundation (NSF)  
Early-concept Grants for Exploratory Research [EAGER]  
Title: Modifying human cognition using targeted non-invasive stimulation of large-scale brain networks  
Role: Co-Investigator (PI: G. Wig, Ph.D.)  
Amount awarded: \$149,940
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## PEER-REVIEWED PUBLICATIONS

- Han, L., **Chan, M. Y.**, Agres, P. F., Winter-Nelson, E., Zhang, Z., & Wig, G. S. (2024). Measures of resting-state brain network segregation and integration vary in relation to data quantity: implications for within and between subject comparisons of functional brain network organization. *Cerebral Cortex*, 34(2). doi: 10.1093/cercor/bhad506
- Wig, G. S., Klausner, S., **Chan, M.Y.**, Sullins, C., Rayanki, A., & Seale, M. (2024). Participant diversity is necessary to advance brain aging research. *Trends in Cognitive Sciences*. 28(2), 92-96 doi: 10.1016/j.tics.2023.12.004
- Zhang, Z., **Chan, M. Y.**, Han, L. Carreno, C. A., Winter-Nelson, E. Wig, G. S., ADNI. (2023). Dissociable effects of Alzheimer’s Disease-related cognitive dysfunction and aging on functional brain network segregation. *Journal of Neuroscience*. doi: 10.1523/JNEUROSCI.0579-23.2023
- Smith, E. T., Hennessee, J. P., Wig, G. S., Frank, S., Gonzalez, H., Bacci, J., **Chan, M. Y.**, ...Park, D.C. (2023) Longitudinal changes in gray matter correspond to changes in cognition across the lifespan: implications for theories of cognition. *Neurobiology of Aging*. doi: 10.1016/j.neurobiolaging.2023.04.014

5. **Chan, M. Y.**, Han, L., Carreno, C. A., Zhang, Z., Rodriguez, R. M., LaRose, M., Hassenstab, J., & Wig, G. S. (2021). Long-term prognosis and educational determinants of brain network decline in older adult individuals. *Nature Aging*. doi: 10.1038/s43587-021-00125-4
6. Gau, R. ...**Chan, M. Y.**, ...Marinazzo, D. (2021). Brainhack: Developing a culture of open, inclusive, community-driven neuroscience. *Neuron*, 109(11), 1769-1775. doi: 10.1016/j.neuron.2021.04.001
7. Chen, X., Farrell, M. E., Rundle, M. M., **Chan, M. Y.**, Moore, W., Wig, G. S., Park, D. C. (2021). The relationship of functional hippocampal activity, amyloid deposition, and longitudinal memory decline to memory complaints in cognitively healthy older adults. *Neurobiology of Aging*, 105, 318-326. doi: 10.1016/j.neurobiolaging.2021.04.020
8. Joseph, D. L., **Chan, M. Y.**, Heintzelman, S. J., Tay, L., Diener, E., & Scotney, V. S. (2020). The manipulation of affect: A meta-analysis of affect induction procedures. *Psychological Bulletin*. doi: 10.1037/bul0000224
9. Hou, X., Liu, P., Gu, H., **Chan, M. Y.**, Li, Y., Peng, S.L., Wig, G.S., Yang, Y., Park, D. C., & Lu, H. (2019). Estimation of brain functional connectivity from hypercapnia BOLD MRI data: Validation in a lifespan cohort of 170 subjects. *NeuroImage*, 186, 455-463. doi: 10.1016/j.neuroimage.2018.11.028
10. **Chan, M. Y.**, Na, J., Agres, P. A., Savalia, N. K., Park, D. C., & Wig, G. S. (2018). Socioeconomic status moderates age-related differences in brain anatomy and functional network organization across the adult lifespan. *Proceedings of the National Academy of Sciences USA*, 115(22) E5144-E5153. doi: 10.1073/pnas.1714021115
11. Han, L., Savalia, N. K., **Chan, M. Y.**, Agres, P. A., Nair, A. S., & Wig G. S. (2018). Functional parcellation of the cerebral cortex across the adult lifespan. *Cerebral Cortex*, 28, 4403-4423. doi: 10.1093/cercor/bhy218.
12. Farrell, M. E., Chen, X., Rundle, M. M., **Chan, M. Y.**, Wig, G. S., & Park, D. C. (2018). Regional amyloid accumulation and cognitive decline in initially amyloid-negative adults. *Neurology*, 91(19), e1809-e182. doi: 10.1212/WNL.0000000000006469
13. **Chan, M. Y.**, Alhazmi, F. H., Park, D. C., Savalia, N. K., & Wig, G. S. (2017). Resting-state network topology differentiates task signals across the adult life span. *Journal of Neuroscience*, 37(10), 2734-2745. doi: 10.1523/JNEUROSCI.2406-16.2017
14. Savalia, N. K., Agres, P. F., **Chan, M. Y.**, Feczko, E. J., Kennedy, K. M., & Wig, G. S. (2017). Motion-related artifacts in structural brain images revealed with independent estimates of in-scanner head motion. *Human Brain Mapping*, 38(1), 472-492. doi: 10.1002/hbm.23397
15. Na, J., McDonough, I. M., **Chan, M. Y.**, & Park, D. C. (2016). Social-class differences in consumer choices: Working-class individuals are more sensitive to choices of others than middle-class individuals. *Personality and Social Psychology Bulletin*, 42(4), 430-443. doi: 10.1177/0146167216634043
16. Na, J., **Chan, M. Y.**, Lodi-Smith, J., & Park, D. C. (2016). Social-class differences in self-concept clarity and their implications for well-being. *Journal of Health Psychology*, 23(7), 951-960. doi: 10.1177/1359105316643597
17. Na, J., **Chan, M. Y.** (2016). Subjective perception of lower social-class enhances response inhibition. *Personality and Individual Differences*, 90, 242-246. doi:10.1016/j.paid.2015.11.027
18. **Chan, M. Y.**, Park, D. C., Savalia, N. K., Petersen, S. E., & Wig, G. S. (2014). Decreased segregation of brain systems across the healthy adult lifespan. *Proceedings of the National Academy of Sciences USA*, 111(46), E4997-E5006. doi: 10.1073/pnas.1415122111
19. **Chan, M. Y.**, Haber, S., Drew, L. D., & Park, D. C. (2014). Training older adults to use tablet computers: Does it enhance cognitive function? *The Gerontologist*, 56(3), 475-484. doi: 10.1093/geront/gnu057

20. Diener, E., & **Chan, M. Y.** (2011). Happy people live longer: Subjective well-being contributes to health and longevity. *Applied Psychology: Health and Well-Being*, 3(1), 1-43. doi: 10.1111/j.1758-0854.2010.01045.x
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## BOOK CHAPTERS

1. Wig, G.S., **Chan, M. Y.**, Nguyen, L. T. (2024). Social determinants of brain health & brain changes across the human lifespan. (Planned for publication in *Encyclopedia of the Human Brain*, 2nd edition edited by Jordan Henry Grafman) Elsevier, 2024, ISBN 9780128093245.
  2. Na, J., & **Chan, M. Y.** (2015). Culture, cognition, and intercultural relations. In J.E. Warnick, & D. Landis (Eds.), *Neuroscience in Intercultural Contexts, International and Cultural Psychology*. doi: 10.1007/978-1-4939-2260-4\_3
  3. Doole, R., **Chan, M. Y.**, & Huang CM. (2015). Intercultural relations and the perceptual brain: A cognitive neuroscience perspective. In J.E. Warnick, & D. Landis (Eds.), *Neuroscience in Intercultural Contexts, International and Cultural Psychology*. doi: 10.1007/978-1-4939-2260-4\_8
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## SCIENTIFIC TALKS

1. Brain Science External Postdoc Seminar Series, Brown University, Providence, RI (May, 2022). Patterns of functional brain network in healthy and unhealthy aging.
  2. Invited talk at Early Career Seminar Series, University of Nevada, Reno, NV (Apr, 2022). Brain Network Segregation: Socioeconomic Moderators and Behavioral Significance in Aging.
  3. Invited talk at Betzel & Sporns Joint Lab NetNeuro Lecture Series (Jul, 2021). The aging functional brain network: environmental moderators & individual variability.
  4. Dallas & Austin Area Memory Meeting, Waco, TX. (Aug, 2020). Educational attainment relates to longitudinal brain network decline.
  5. Dallas & Austin Area Memory Meeting, Waco, TX. (Sep, 2018). Age-related brain differences are moderated by socioeconomic status: thinking beyond individual-level indicators.
  6. Center for Vital Longevity Science Luncheon, University of Texas at Dallas, Dallas, TX. (Apr, 2018). Socioeconomic status moderates age-related differences in brain anatomy and functional network organization across the adult lifespan.
  7. Dallas & Austin Area Memory Meeting, Austin, TX. (Sep, 2017). Socioeconomic status moderates age-related differences in brain anatomy and functional network organization across the adult lifespan.
  8. Dallas & Austin Area Memory Meeting, Dallas, TX. (Aug, 2016). Age associated differences in resting-state network topology predict differences in task-evoked activity.
  9. Society of Personality and Social Psychology Annual Meeting, Long Beach, CA. (Feb, 2015). The power of social contexts: Social-class, age, self-concept clarity, and well-being across adulthood.
  10. Behavioral and Brain Science Brownbag, Richardson, TX. (April, 2012). Well-being and age-related cognitive decline.
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## POSTER PRESENTATIONS

1. **Chan, M. Y.**, Sullins, C., Reingle Gonzalez, J., Park, D. C., Brown, E., Wig, G.S. (Oct, 2024). Chronic stress is associated with alterations in large-scale functional brain network organization among middle-aged adult humans. Society for Neuroscience, Chicago, IL, USA.
2. Zhang, Z., **Chan, M. Y.**, Winter-Nelson, E., Wig, G. S., ADNI. (July, 2024). Functional brain network organization supports cognitive function in patients with Alzheimer’s Disease-related pathological burden and brain atrophy. AAIC, Philadelphia, PA, USA.
3. **Chan, M. Y.**, Nelson, R., Winter-Nelson, E., Wig, G.S. (Sep, 2023). Reliability of network measures from resting-state fMRI events and sub-sampled timeseries. Resting State Brain Connectivity 2023, Dallas, TX, USA.
4. Winter-Nelson, E., Bergmann, E., **Chan, M. Y.**, Han, L., Kavushansky, A., Asleh, J., Li, Y., Murdy, T., Zhang, S., Harris, J. A., Febo, M., Kaczorowski, C. C., Kahn, I., Wig, G. S. (Nov, 2022). Cross-species homologies in patterns of large-scale functional brain network decline across aging mice and humans. Society for Neuroscience, San Diego, CA, USA.
5. Agres, P. F., Han, L., **Chan, M. Y.**, Nair, A. S., Carreno, C. A., & Wig, G. S. (Nov, 2022). Individualized targeting and non-invasive stimulation of functional brain networks reveals stimulation-specific impacts on resting-state functional correlations. Society for Neuroscience 2022, San Diego, CA, USA.
6. Zhang, Z, **Chan, M. Y.**, Han, L., Carreno, C. A., Winter-Nelson, E., Wig, G. S., ADNI. (Nov, 2022). Independent effects of Alzheimer’s disease and aging on functional brain network organization at rest. Society for Neuroscience 2022, San Diego, CA, USA.
7. Yu, J.C., **Chan, M. Y.**, Liang, H., Agres, P., & Abdi, H. (Jun, 2022). A multivariate approach to analyze brain networks with individualized parcellation. Organization for Human Brain Mapping, Glasgow, Scotland.
8. Nguyen, L. T., Carreno, C. A., Munson, M., Barua, A., Sullins, C., Lakhanpal, S., Jaiswal, Brown, E. S., Reingle-Gonzalez, J. M., Park, D. C., **Chan, M. Y.**, Wig, G. S. (May, 2022). The Midlife Brain and Environment Study: A longitudinal brain imaging study investigating the health, environment, and lifestyle factors that moderate brain and cognitive aging. Cognitive Neuroscience of Aging Symposium, Dallas, TX, USA.
9. **Chan. M. Y.**, Carreno, C. A., Zhang, Z., Rodriguez, R. M., LaRose, M., Hassenstab, J., & Wig, G. S. (Jun, 2020). Lower education is accompanied by greater longitudinal brain network decline in older adults. Organization for Human Brain Mapping, [Virtual].
10. Yu, J.C., **Chan, M. Y.**, Liang, H., Agres, P., & Abdi, H. (Jun, 2020). A multivariate approach to analyze connectivity matrices with individual-specific parcellation. Organization for Human Brain Mapping, [Virtual].
11. Yu, J.C., **Chan, M. Y.**, Liang, H., & Abdi, H. (Aug, 2019). A multivariate resting-state fMRI technique for subject-specific parcels and sub-networks. Semantic processing and semantic knowledge (Co-sponsored by the Center for Cognitive Neuroscience and the Neukom Institute for Computational Science), Hanover, NH, USA.
12. Liang, H., **Chan, M. Y.**, Agres, P. F., & Wig, G. S. (Jan, 2019). Assessment of resting-state brain network reliability over multiple measurements: implications for longitudinal observations. Dallas Aging & Cognition Conference, Dallas, TX, USA.
13. **Chan, M. Y.**, Na, J., Agres, P. A., Savalia, N. K., Park, D. C., & Wig, G. S. (Mar, 2018). Socioeconomic status moderates age-related differences in brain anatomy and functional network organization across the adult lifespan. Cognitive Neuroscience Society Annual Meeting, Boston, MA, USA.

14. Agres, P.F., **Chan, M.Y.**, Han, L., Savalia, N.K., Wig, G.S. (Mar, 2018). Organized patterns of cortical thinning observed across the healthy adult lifespan. Cognitive Neuroscience Society Annual Meeting, Boston, MA.
15. **Chan, M. Y.**, Savalia, N. K., Filbey, F., & Wig, G. S. (Nov, 2017). Differences in age-related desegregation of sensory systems between long-term marijuana users and controls. Society for Neuroscience Annual Meeting, Washington, DC, USA.
16. Cooper, C, Savlia, N. K., Agres, P. A., **Chan, M. Y.**, Han, L.,... Trivedi, M. (Dec, 2016). Identifying Clinically Relevant Subgroups in Major Depressive Disorder Using Resting-State Functional Connectivity: Results From the EMBARC Study. The American College of Neuropsychopharmacology Meeting, Hollywood, FL.
17. **Chan, M. Y.**, Alhazmi, F., Savalia, N. K., Park, D. C., Agres, P. F., Wig, G. S. (Nov, 2016). Age associated differences in resting-state network topology predict differences in task-evoked activity. Society for Neuroscience Annual Meeting, San Diego, CA, USA.
18. Wig, G. S., Alhazmi, F., **Chan, M. Y.**, Savalia, N. K. (Nov, 2016). Age-related differences in the organization of large-scale functional brain networks during successful memory formation. Society for Neuroscience Annual Meeting, San Diego, CA, USA.
19. Savalia, N. K., Cooper, C. M., Agres, P. F., **Chan, M. Y.**, Han, L.,...Wig, G. S. (Nov, 2016) Resting-state functional connectivity classifies patients with major depressive disorder into clinically distinct sub-groups. Society for Neuroscience Annual Meeting, San Diego, CA, USA.
20. Han, L., Savalia, N. K., **Chan, M. Y.**, Agres, P. F., Wig, G. S. (Nov, 2016). Functional parcellation of the cerebral cortex across the healthy adult lifespan using resting-state functional connectivity. Society for Neuroscience Annual Meeting, San Diego, CA.
21. **Chan, M. Y.**, Alhazmi, F., Savalia, N. K., Park, D. C., Wig, G. S. (Oct, 2015). Evidence that decreased system segregation observed across the healthy adult lifespan does not result in differences in resting-state defined system topology. Society for Neuroscience Annual Meeting, Chicago, IL, USA.
22. Dewitt, S. J., **Chan, M. Y.**, & Filbey, F. M. (Mar, 2015). Increased global efficiency and resting state functional connectivity in default mode, fronto-parietal and salience networks associated with increased harm avoidance in risk-taking adolescents. Cognitive Neuroscience Society Annual Meeting, San Francisco, CA, USA.
23. **Chan, M. Y.**, Park, D. C., Savalia, N. K., Petersen, S. E., & Wig, G. S. (Nov, 2014). Decreased segregation of brain systems across the healthy adult lifespan. Society for Neuroscience Annual Meeting, Washington, DC, USA.
24. **Chan, M. Y.**, McDonough, I. M., & Park, D. C. (Nov, 2013). A lifespan study of connectivity differences in four large-scale brain networks. Society for Neuroscience Annual Meeting, San Diego, CA, USA.
25. Haber, S., McDonough, I. M., **Chan, M. Y.**, & Park, D. C. (Apr, 2013). Sustained mental challenge can lead to long-term enhancements in cognitive and brain function. Cognitive Aging Conference. Atlanta, GA.
26. **Chan, M.Y.**, Haber, S., Drew, L. D., & Park, D. C. (Nov, 2012). Active engagement through iPad: Effects of technology adaptation as an intervention on cognitive aging. Gerontology Society of America, San Diego, CA, USA.
27. **Chan, M. Y.**, McDonough, I. M., & Park, D. C. (Oct, 2012). Functional Connectivity in the executive function network is associated with personality traits from the NEO PI-R. Neuroscience 2012; Society for Neuroscience, New Orleans, LA, USA.
28. **Chan, M. Y.**, Na, J., Lodi-Smith, J., & Park, D. C. (Apr, 2012). Well-being and age-related differences in cognitive functions: Psychological well-being can shape cognitive aging. Cognitive Aging Conference, Atlanta, GA, USA.

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## PROFESSIONAL MEMBERSHIP

2010- 2015-	Society for Neuroscience Cognitive Neuroscience Society	2012-2013	Gerontology Society of America
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## AD-HOC REVIEWING

Aging & Mental Health	Neurobiology of Language
Applied Psychology: Health and Well-Being	NeuroImage
Behavioral Neuroscience	Neurology
Biological Psychiatry	Neuropsychologia
Brain and Language	Network Neuroscience
Brain Connectivity	PLOS Biology
Cerebral Cortex	PLOS One
Cortex	Proc. of the Nat. Acad. of Sci., USA
Developmental Cognitive Neuroscience	Psychological Well-being
Human Brain Mapping	Psychological Science
Imaging Neuroscience	Psychosomatic Medicine
Journal of Neuroscience	Scientific Reports
Journal of the International Neuropsychological Society	Sociological Inquiry
Neurobiology of Aging	

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## ADDITIONAL SKILLS

- **Programming/Scripting Languages:** R, MATLAB, Bash, Python, MySQL, HTML
  - **Neuroimaging software:** FreeSurfer, SPM, FSL, Nipype, Connectome Workbench
  - **General Software:** REDCap, Git, SPSS, Microsoft Office (Word, Excel, PowerPoint)
  - **Operating Systems:** Windows, Mac OS, Linux
  - **Languages:** English, Cantonese, Mandarin
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## REFERENCES

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