YOU (LILIAN) CHENG, Ph.D.

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AREA OF RESEARCH

Cognitive Neuroscience, Neuroimaging, Neurodegenerative Diseases, Human Navigation, Artificial Intelligence

ACADEMIC POSITIONS

Research Fellow   July 2022 - present
Mass General Brigham (MGB) & Harvard Medical School (HMS), Boston, MA, USA
Affiliacted with Massachusetts General Hospital (MGH) & McLean Hospital

Visiting Scholar   Aug. 2021 - Oct. 2021
Max Planck Institute for Software Systems (MPI-SWS), Saarbrücken, Germany

EDUCATION

Ph.D., Cognitive Sciences with a Concentration in Cognitive Neuroscience   June 2022
University of California, Irvine (UCI), Irvine, CA, USA
Dissertation: Travel Direction as a Fundamental Component of Human Navigation: Integrating Psychophysics,
Neuroimaging, and Computational Modeling Approaches pdf (*Advisor: Dr. Elizabeth R. Chrastil*)

M.S., Cognitive Neuroscience   Dec. 2020
University of California, Irvine (UCI), Irvine, CA, USA

M.A., Geography   Sept. 2019
University of California, Santa Barbara (UCSB), Santa Barbara, CA, USA
Thesis: The Influence of Handedness on Mental Rotation of Hands pdf (*Advisor: Dr. Elizabeth R. Chrastil*)

B.S., Psychology   June 2014
National Science Fund for Talent Training in Basic Science (Psychology)
South China Normal University (SCNU), Guangzhou, Guangdong, China
Thesis: The Influence of Doppler Effects on Ponzo Illusion (*Advisors: Dr. Chen Qu, Dr. Qi Chen*)

GRANTS & FELLOWSHIPS

- 2023 - 2024 "Big data analyses of sociocultural influences on human cognitive abilities." **PI**. Google Cloud Research Credit Grant GCP19980904 11/20/23 - 11/20/24 ($1,000). *Google LLC*

- 2022 Research Education Component (REC) Scholar ($5,000). *Massachusetts Alzheimer's Disease Research Center (MADRC), MGH&HMS*

- 2021 Cascade Mentoring Fellowship ($6,000). *School of Social Sciences, UCI*

- 2020 Social Sciences Instructional Fellowship ($2,500). *School of Social Sciences, UCI*

- 2019 Crossroads Fellow ($8,000). *UCSB*

- 2018 Summer Research Fund ($2,400). *Department of Geography, UCSB*

- 2014 Zhang Wenjin Fellowship ($400). *SCNU* - Sole recipient from the School of Psychology

- 2012 - 2013 "The influence of time perception on time-based prospective memory." **PI** (Co-Investigator, Yinxin Liang) National Undergraduate Training Program for Innovation and Entrepreneurship Grant No. 201210574079, 2/16/12 - 2/16/13 ($1,000). *Ministry of Education of the People's Republic of China*

- 2012 - 2013 "The mechanism of mixed-prospective memory." **Co-PI** (PI, Yinxin Liang), University Undergraduate Training Program for Innovation and Entrepreneurship Grant 3/15/12 - 3/15/13 ($200). *SCNU*

Awards & Honors

Academic
- 2025 Best Postdoctoral Poster Award. *AAIC Neuropsychiatric Syndromes Professional Interest Area (PIA)*
- 2025 - 2026 Presidential Award ($10,000). *McLean Hospital*
- 2022 Diversity Travel Award. *Alzheimer's Fast Track Workshop, BrightFocus Foundation*
- 2022 Team Science - Honorable Mention. *MGH Annual Clinical Research Day, MGH*
- 2021 Roger W. Russell Scholar's Award ($1,000). *Center for the Neurobiology of Learning and Memory, UCI*
- 2021 Audience Choice Award. *Associated Graduate Students (AGS) Virtual Symposium, UCI*
- 2021 AGS Virtual Conference Grant Award (three conferences, $750 in total). *Graduate Division, UCI*
- 2020 Trainee Professional Development Award (TPDA). *Society for Neuroscience*

Professional Development
- 2021 1st Place Team of the Business Pitch Competition. *GPS STEM & Beall Applied Innovation, UCI*
- 2020 Runner-Up Team in WaiDATATHON for Sustainable Future. *WaiACCELERATE & Women in AI (WAI)*

Pre-Print Publications

- West M., Magdamo C., **Cheng, Y.** , He Y., Das S.. Leveraging pre-trained and transformer-derived embeddings from Electronic Health Records to characterise heterogeneity across Alzheimer's disease and related dementias. *ArXiv* pdf
- **Cheng, Y.**, Chrastil, E.R.. From individual cognitive maps to a collective cognitive map: prescriptive guidelines and measurement of factors that could distort the mapping process. *PsyArXiv* pdf

Refereed Journal Publications

- Mollet, A., Hagan, A., **Cheng, Y.**, Kozik, A., Smith C., Haage, A.*, Jadavji, N.* (2025). Beyond the leaky pipeline: A quantitative analysis of the academic job market in humanities and social sciences. *Studies in Graduate and Postdoctoral Education.* preprint pdf
- Korponay, C.*, Cohen-Gilbert*, **Cheng, Y.**, J.E., Kumar, P., Harnett, G., Medina, A., Forester B., Ressler, K., Demsar, J., Frederick, B., Beckmann, C., Harper, D., Nickerson, L. (2025). Disentangling large-scale brain dynamics and their links to behavior during the emotional face matching task. *Biological Communications.* 8 (1), 1-11 pdf <
- Liu, P., Zemlyanker, D., **Cheng, Y.**, He, Y., Izquierdo, D., Gomez-Isla, T., Das, S., Nasr, S., Sheth, K., Rosen, M., Kimberly W., de Havenon, A., Shen, F., Iglesias, JE. (2025). The normalizing properties of intracranial volume across race and sex. *Brain Communications*. fcaf271. pdf
- **Cheng, Y.***, Malekar M.*, He Y.*, Bommareddy, A., Magdamo, C., Singh A., Dickson J., Mukerji S., Westover B., Das S. (2025). High-throughput phenotyping of the symptoms of Alzheimer disease and related dementias using large language models: cross-sectional study. *JMIR AI.* 4:e66926. preprint pdf
- **Cheng, Y.***, He, Y.*, Gopinath, K., Billot, B., Iglesias, JE., Wu, C., Dodge, H., Wills, A., Carlyle, B., Kivisäkk, P., Hyman B., Arnold S., Das S. (2025). Brain MRI signatures across sex and CSF AD biomarkers. *Brain Communications*, 7(3), fcaf210. pdf
- West, M.*, **Cheng, Y.***, He, Y.*, Leng, Y., Magdamo C., Hyman B., Dickson, J., Serrano-Pozo, A., Blacker D., Das S. (2025). Unsupervised deep learning of electronic health records characterizes heterogeneity across Alzheimer's disease and related dementias: cross-sectional study. *JMIR Aging*, 8(1), e65178. preprint pdf
- Flynn, B., Kozik, A., **Cheng, Y.**, Hagan, A., Ng J., Mollet A., Smith C., Haage, A., Jadavji, N. (2024). An updated and expanded characterization of the biological sciences academic job market. *Frontiers in Research Metrics and Analytics* 9, 1473940. preprint pdf
- Gopinath, K.*, Hoopes, A.*, Alexander, D.C., Arnold, S.E., Balbastre, Y., Casamitjana, A., **Cheng, Y.**, et al. (2024). Synthetic data in generalizable, learning-based neuroimaging. *Imaging Neuroscience*, 2, 1-22. pdf
- **Cheng, Y.**, Ho, E., Weintraub, S., Rentz, D., Gershon, R., Das, S., Dodge, H. (2024). Predicting brain amyloid status using the National Institute of Health Toolbox (NIHTB) for Assessment of Neurological and Behavioral Function. *The Journal of Prevention of Alzheimer's Disease*, 1-15. pdf
- **Cheng, Y.**, Ling, S., Stern, C. E., Huang, A., Chrastil, E.R. (2024). (Don't) look where you're going: Evidence for a travel direction signal in humans that is independent of head direction. *Journal of Experimental Psychology: General, 153* (4), 1038–1052. preprint pdf code data
- Billot, B., Magdamo, C., **Cheng, Y.**, Das, S., Arnold, S., Iglesias, JE (2023). Robust machine learning segmentation for large-scale analysis of heterogeneous clinical MRI datasets. *Proceedings of the National Academy of Sciences, 120(9), e2216399120.* pdf

- **Cheng, Y.***, He, C. *, Hegarty, M., Chrastil, E.R. (2022). Who believes they are good navigators? A machine learning pipeline highlights the impact of gender, commuting time, and education. *Machine Learning with Applications, 100419.* *denotes equal authorship pdf code **Editor's Choice Articles.**
- t Hart, B. M., Adeyemi, A., Akrami, A., Alicea, B., Alonso-Andres, A., ... **Cheng, Y.**, ... Vishne, G. (2022). Neuromatch Academy: a 3-week, online summer school in computational neuroscience. *The Journal of Open Source Education, 5*(49), 118. preprint pdf
- **Cheng, Y.**, Hegarty, M., Chrastil, E. R. (2020).Telling right from right: the influence of handedness in the mental rotation of hands. *Cognitive Research: Principles and Implications, 5,* 1-18. pdf
- Sun, L., Tan, P. *, **Cheng, Y. ***, Chen, J., Qu, C. (2015). The effect of altruistic tendency on fairness in third-party punishment. *Frontiers in Psychology, 6, 820.* *denotes equal authorship pdf
- Qu, L., Dou, W., **Cheng, Y.**, Qu, C. (2014). The processing course of conflicts in third-party punishment: An event-related potential study. *PsyCh journal, 3*(3), 214-221. pdf

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BOOK CHAPTERS

- Chrastil, E. R., **Cheng, Y.**(2024). Central coordination and integration of diverse information to form a single map. In *Collective Spatial Cognition*(pp. 146-163). Routledge. pdf

MANUSCRIPTS IN PREP AND UNDER REVIEW

- Jadavji, N., Haage, A., Smith, C., A., Kozik, Hagan, A., **Cheng, Y.**. Beating the odds: A mixed-methods analysis of metrics and resilience among biomedical faculty job seekers. (*under review*)
- **Cheng, Y.**, Medina, A., Korponay C., Beckmann C., Harper, D., Nickerson, L.. Investigating the Amyloid-Tau-Neurodegeneration framework in Alzheimer's Disease using semi-supervised multimodal imaging data fusion (*under review*)
- Aguila, A.L., Zemlyanker, D., Puonti, O., Sorby-Adams, A., Kimberly, W.T., **Cheng, Y.**, Das, S., Alexander, D.C., Iglesias, J.E. Deep generative priors for 3D brain analysis. (*under review*) preprint
- Korponay, C., Cohen-Gilbert, J.E., Kumar, P., Harnett, G., Medina, A., **Cheng, Y.**, Forester B., Ressler, K., Demsar, J., Frederick, B., Beckmann, C., Harper, D., Nickerson, L.. Cognition-centric brain activity across diverse imaging tasks constrains the representation of mental health in brain function data. (*in preparation*) preprint
- Gou Q., **Cheng, Y.**, He, Y., Magdamo C., Singh A., Dickson J., Mukerji S., Westover B., Das S.. Using large language models to identify ADRD patients' age of onset in Electronic Health Records. (*in preparation*)
- **Cheng, Y.**, Ling, S., Stern, C. E., Chrastil, E.R.. Navigational systems in the human brain dynamically code for past, present, and future trajectories. (*in preparation*) preprint
- **Cheng, Y.**, Chrastil, E.R., Krichmar, J.. A recurrent neural network model of travel direction in humans. (*in preparation*)
- **Cheng, Y.**, Yingnan, H., Blacker, D., Dodge, H., Buckley, R., Sneider, J., Harper, D., Nickerson, L., Das, S.. Sex differences in brain atrophy across cognitive decline stages: Using National Alzheimer's Coordinating Center (NACC) data (*in preparation*)

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REVIEWING

Ad Hoc Journal Referee
- Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring (DADM) · Attention, Perception, & Psychophysics · BioSystems · Brain and Behavior · Brain Communications · Cognition · Cognitive Research: Principles and Implications (CR:PI) · Communications Biology · Current Psychology · Frontiers in Neurology · Frontiers in Virtual Reality · JAMIA Open · JMIR · JMIR Aging · JMIR AI · JMIR Formative Research · JMIR Neurotechnology · JMIR Research Protocols · Journal of Advances in Information Technology · Memory & Cognition · Neuropsychology · Online Journal of Public Health Informatics (OJPHI) · Perceptual and Motor Skills · Qeios · Quarterly Journal of Experimental Psychology · Frontiers in Aging Neuroscience · Human Brain Mapping

Ad Hoc Conference Paper Referee
- 2023, 2024, 2025 Machine Learning for Health (ML4H) @ NeurIPS
- 2023 Machine Learning for Healthcare (MLHC)
- 2021 Grace Hopper Celebration of Women in Computing (vGHC)

Ad Hoc Grant Review
- 2023 Graduate Women in Science (GWIS) National Fellowship

SELECT PRESENTATIONS

Invited Talks

- SuperBigFLICA: code modifications and applications. *The 2nd meeting of the users' committee for the NWO-VICI project "Big data for precision neuroscience: new tools for brain connectopics", Donders Centre for Cognitive Neuroimaging (DCCN), Nijmegen, Netherlands & virtual, May, 2025.*
- Leveraging unsupervised learning on EHRs to characterize heterogeneity across Alzheimer's Disease and Related Dementias. *Mayo Clinic Machine Learning Deep Learning (MLDL) Journal Club, virtual, March, 2025.*
- Deep learning clinical, cognitive, and neuroimaging phenotypes from the MGH Memory Disorder Unit (MDU) patients. *MGH Memory Disorder Unit (MDU) Conference, virtual, May, 2023.*
- Predicting AD status with brain morphometry: Utilizing cerebrospinal fluid as a biomarker. *Joint UCSF/MGH REC Scholars Program Event, virtual, April, 2023.*
- A unique graduation journey - graduate student spotlight. *UCI Cognitive Sciences Association. Nov., 2021.*
- Finding the compass: Head direction signals in the human brain. *UCI CNLM Awards Ceremony. May, 2021.*

Oral Presentations

- Amyloid, Tau, and Neurodegeneration Underlying Heterogeneity in Aging and Cognitive Decline: A Semi-Supervised Neuroimaging Fusion and Neurotransmitter Correspondence Analysis. *Accepted. Society of Biological Psychiatry Annual Meeting (SOBP), May, 2026.*
- Egocentric and allocentric relational processing in the human brain. *5th Interdisciplinary Navigation Symposium (iNAV), Merano, BZ, Italy. 2024.*
- Evidence for a distributed head direction and travel trajectory system in the human brain during active navigation. *Society for Neuroscience (Sfn), San Diego, Nov., 2022.*
- Sex differences in head direction signals when learning a complex environment. *Neuromatch 4.0, Dec., 2021.*
- Head direction signals during navigation. *Spring CNLM Conference - Memory: It's About Time. May, 2021.*
- The emergence of head direction signals in human navigation. *UCI Associated Graduate Students (AGS) Symposium, Virtual. April, 2021.* **Audience Choice Award.**
- Travel direction as a fundamental component of human navigation. *Neuromatch 3.0, Virtual. Oct., 2020.*
- Travel direction as a fundamental component of human navigation. *Interdisciplinary Navigation Symposium (iNAV), Virtual. Oct., 2020.*
- What are the sex differences in navigation training? Using the sea hero quest dataset. *UCSB Crossroads Symposium, Santa Barbara. Nov., 2019.*
- Greater than the sum of the parts: Collaboration in the U.S. LTER network. *International Long-Term Ecosystem Research Open Science Meeting (ILTER OSM), Leipzig, Germany. Sept., 2019.*
- Domain-general distance representation. *UCSB Geography Department Colloquium, Santa Barbara. May, 2019.*
- From individual cognitive maps to a collective cognitive map: Prescriptive guidelines. *Collective Spatial Cognition Specialist Meeting, Santa Barbara. April, 2019.*
- Left hand, right hand. *2018 Spatial Lightning Talks, UCSB Center for Spatial Studies. UCSB. Feb 9, 2018.*
- Mixed time-based and event-based prospective memory: A behavioral study. *the 16th National Academic Congress of Psychology, Nanjing, China. Nov., 2013.*

Poster Presentations

- Korponay, C., Cohen-Gilbert, J.E., Kumar, P., Harnett, G., Medina, A., **Cheng, Y.**, Forester B., Ressler, K., Demsar, J., Frederick, B., Beckmann, C., Harper, D., Nickerson, L.. Biotypes Are Fragile to Modality: Divergence of Task fMRI- vs Mental Health–Based Subtypes. *Accepted. Society of Biological Psychiatry Annual Meeting (SOBP), New York, New York, May, 2026.*
- **Cheng, Y.**, Medina, A., Korponay C., Harper, D., Nickerson, L.. Investigating the Amyloid-Tau-Neurodegeneration Framework in Alzheimer's Disease Using Semi-Supervised Multimodal Imaging Data Fusion. *Accepted. SOBP, New York, New York, May, 2026.*
- Smith, C., **Cheng, Y.**., Hagan, A., A., Kozik, Haage, A., Jadavji, N. Towards a more humane process: Learning from the experiences of applicants on the faculty job market. *Accepted. National Postdoctoral Association (NPA) Annual Conference, San Fracisco, California, March, 2026.*
- Korponay, C., Cohen-Gilbert, J.E., Kumar, P., Harnett, G., Medina, A., **Cheng, Y.**, Forester B., Ressler, K., Demsar, J., Frederick, B., Beckmann, C., Harper, D., Nickerson, L.. Divergence of task fMRI- and mental health-derived biotypes. *McLean Research Day, Belmont, Massachusetts, Jan, 2026.*
- Hannon K., **Cheng, Y.**, Cohen-Gilbert J., Korponay C., Harnett, N., Kumar, P., Silveri M., Nickerson, L.. Structural Covariance Patterns of Alcohol Use. *McLean Research Day, Belmont, Massachusetts, Jan, 2026.*

- **Cheng, Y.**, Medina, A., Korponay C., Harper, D., Nickerson, L.. Investigating the Amyloid-Tau-Neurodegeneration Framework in Alzheimer's Disease Using Semi-Supervised Multimodal Imaging Data Fusion. *McLean Research Day, Belmont, Massachusetts, Jan, 2026.*
- Haage, A., **Cheng, Y.**., Hagan, A., Kozik, A., Smith, C., Jadavji, N. Longitudinal insights from the faculty job market collaboration. *Cell Bio 2025, Philedelphia, Pennsylvania, Dec., 2025.*
- **Cheng, Y.**, Medina, A., Korponay C., Harper, D., Nickerson, L.. Multi-modal neuroimaging fusion reveals predictive patterns of affective symptoms and hyperactivity in Alzheimer's disease. *Alzheimer's Association International Conference (AAIC), Toronto, Canada, July, 2025.* **Neuropsychiatric Syndromes PIA Best Postdoctoral Poster Award.**
- **Cheng, Y.**, Medina, A., Korponay C., Harper, D., Nickerson, L.. Multi-modal neuroimaging fusion reveals predictive patterns of affective symptoms and hyperactivity in Alzheimer's disease. *Alzheimer's Imaging Consortium Preconference (AIC), Toronto, Canada, July, 2025.*
- Cohen-Gilbert J., Korponay C., Kumar, P., Medina, A., **Cheng, Y.**, Harper, D., Nickerson, L.. Large-scale network states associated with reward processing during the Human Connectome Project's incentive processing task. *Society of Biological Psychiatry Annual Meeting (SOBP), Toronto, Canada, Apr., 2025.*
- **Cheng, Y.**, Medina, A., Korponay C., Cohen-Gilbert J., Kumar, P., Harper, D., Nickerson, L.. Interaction between neuropsychiatric symptoms and hippocampal volume deviations predicts brain amyloid status in aging adults. *SOBP, Toronto, Canada, Apr., 2025.*
- Medina, A., Korponay C., **Cheng, Y.**, Cohen-Gilbert J., Kumar, P., Harper, D., Nickerson, L.. Cognitive function, neuropsychiatric symptoms and deviations from normative brain network structure in treatment resistant depression. *SOBP, Toronto, Canada, Apr., 2025.*
- Starrett Ambrose, M., **Cheng, Y.**, Davis, R., Chrastil, E.R.. Abstract relational distance coding in the human brain. *Cognitive Neuroscience Society (CNS) Annual Meeting, Boston, March, 2025.*
- **Cheng, Y.**, Medina, A., Korponay C., Cohen-Gilbert J., Kumar, P., Harper, D., Nickerson, L.. Interaction between neuropsychiatric symptoms and hippocampal volume deviations predicts brain amyloid status in aging adults. *McLean Research Day, Belmont, Massachusetts, Jan., 2025.*
- Amini, S., **Cheng, Y.**, Magdamo, C., Paschalidis I., Das S.. From normal cognition to dementia: Using natural language processing to identify cognitive stages leveraging electronic health records. *AAIC, Philedelphia, Pennsylvania, July, 2024.*
- **Cheng, Y.**, Gopinath K., Billot, B., Iglesias, JE., Kivisakk Webb P., Chao-Yi W., Dodge H., Hyman B., Arnold S., Das S.. Association of brain MRI signatures with Alzheimer's disease CSF biomarkers. *AAIC, Philedelphia, Pennsylvania, July, 2024.*
- Flynn, B. , **Cheng, Y.**., Hagan, A., Kozik, A., Mollet, A., Smith, C., Haage, A., Jadavji, N. Increasing Transparency in the Academic Job Market. *NPA Annual Conference, Seattle, Washington, March, 2024.*
- Starrett Ambrose, M., **Cheng, Y.**, Davis, R., Tranquada-Torres, B., Chrastil, E.R.. Brain networks supporting egocentric and allocentric relational processing.*SfN, Washington D.C., Nov., 2023.*
- **Cheng, Y.**., Ho, E., Weintraub, S., Rentz, D., Gershon, R., Das, S., Dodge, H.. Predicting Brain Amyloid Status Using the NIH Toolbox for Assessment of Neurological and Behavioral Function. *AAIC, Amsterdam, Netherlands, July, 2023.*
- Starrett Ambrose, M., **Cheng, Y.**, Davis, R., Tranquada-Torres, B., Chrastil, E.R.. Domain Generality and Specificity Across Egocentric and Allocentric Distance Ratings. CA, United States.*International Conference on Learning and Memory, Huntington Beach, April, 2023.*
- Starrett Ambrose, M., **Cheng, Y.**, Davis, R., Tranquada-Torres, B., Chrastil, E.R.. Domain Generality and Specificity Across Egocentric and Allocentric Distance Ratings. *SfN, San Diego, Nov., 2022.*
- Tyagi T., Magdamo, C., **Cheng, Y.**, West, M., Noori A., Liu, X., Serrano-Pozo, A., Hyman, B., Mukerji, S., Westover, M.B., Blacker, D., Das, S.. Deep Learning Natural Language Processing to Detect Cognitive Impairment in Charts from Electronic Health Records. *MGH Clinical Research Day. Oct., 2022.* ***Team Science Award.***
- **Cheng, Y.**, Chrastil, E.R., Krichmar, J.. A Recurrent Neural Network Model of Travel Direction in Humans. *Women in Machine Learning Un-Workshop, International Conference on Machine Learning (ICML). July, 2022.*
- **Cheng, Y.**, Chrastil, E.R., Krichmar, J.. A Recurrent Neural Network Model of Travel Direction in Humans. *Interdisciplinary Navigation Symposium (iNAV), Virtual. June, 2022.*
- **Cheng, Y.**, Ling, S., Stern, C. E., Huang, A., Chrastil, E.R.. Travel Direction as a Fundamental Component of Human Navigation. *Harvard Women in Psychology's Annual Trends in Psychology Summit, Virtual, Nov., 2021.*
- **Cheng, Y.**, Chrastil, E.R.. Sex Differences in Head Direction Signals When Learning a Complex Environment. *Sfn, Virtual. Nov., 2021.*
- **Cheng, Y.***, He C. *, Spiers H., Coutrot A., Hornberger M., Hegarty M., Chrastil, E.R.. Self-Evaluations of Navigation Ability: A Big Data Approach. *Psychonomic Society Annual Meeting (Psychonomics), Virtual. Nov., 2021.* *denotes equal authorship

- **Cheng, Y.**, Chrastil, E.R.. Head Direction Signals During Navigation: Comparing Movement And Stationary Periods. *Spatial Cognition, Virtual. Aug., 2021.*
- **Cheng, Y.**, Chrastil, E.R.. The Emergence of Head Direction Signals in a Complex Environment. *Annual Meeting of the Organization for Human Brain Mapping (OHBM), Virtual. June, 2021.*
- **Cheng, Y.**, Chrastil, E.R.. The Emergence of Head Direction Signals in Human Navigation. *spatial@ucsb.global2021: Spatial Data Science for a Sustainable Future, Virtual. June, 2021.*
- **Cheng, Y.**, Chrastil, E.R.. The Emergence of Head Direction Signals in Human Navigation. *CNS, Virtual. March, 2021.*
- **Cheng, Y.**, Chrastil, E.R.. The Emergence of Head Direction Signals in Human Navigation. *Society for Neuroscience Global Connectome, Virtual. Jan., 2021.* **Trainee Professional Development Award (TPDA)**
- **Cheng, Y.**, Chrastil, E.R.. The Emergence of Head Direction Signals in Human Navigation. *Psychonomics, Virtual. Nov., 2020.*
- Downs, M., Brun, J., Huang, T., **Cheng, Y.**. Greater Than the Sum of the Parts: Collaboration in and Beyond the U.S. LTER Network. *Ecological Society of America Annual Meeting, Virtual. Aug., 2020.*
- **Cheng, Y.**, Ling, S., Stern, C. E., Huang, A., Chrastil, E.R.. Travel Direction as a Fundamental Component of Human Navigation. *Psychonomics, Montreal, Canada. Nov., 2019.*
- **Cheng, Y.**, Hegarty, M., Chrastil, E.R.. Embodied Experience of the 'Wrong' Hand, Not World Knowledge, Supports the Mental Rotation of Hands. *Psychonomics, New Orleans, USA. Nov., 2018.*
- **Cheng, Y.**, Hegarty, M., Chrastil, E.R.. Performance Discrepancy Between Left-handers and Right-handers Reveals Multisensory Integration in the Mental Rotation of Hands. *Spatial Cognition, Tübingen, Germany. Aug., 2018.*
- **Cheng, Y.**, Ling, S., Stern, C. E., Huang, A., Chrastil, E.R.. Travel Direction as a Fundamental Component of Human Navigation. *Interdisciplinary Navigation Symposium (iNAV), Quebec, Canada. June, 2018.*
- **Cheng, Y.**, Ling, S., Stern, C. E., Huang, A., Chrastil, E.R.. Are You Getting Closer to the Sun or to the Moon? An Unusual Motion Adaptation Effect of Travel Direction. *spatial@ucsb.local2018, UCSB. June, 2018.*
- Chrastil, E.R., Nicora, G., Davis, R., Smith, J., **Cheng, Y.**. The Influence of Decision-Making on Spatial Learning and Memory: An Individual Differences Approach. *Sfn, Washington DC, USA. Nov., 2017.*
- **Cheng, Y.**, Qu, C.. Cost Consideration Driven by Prosociality in Third-party Punishment: Using Feedback Related Negativity. *Sfn, Chicago, USA. Oct., 2015.*

Media Coverage

- Research on sex differences in navigation featured in "UCSB Crossroads," *2019/20 UCSB Graduate Division Magazine p.45* (11/15/19)
- Research on faculty job market featured in "Carpe Careers" *Inside Higher Ed* (08/07/23), "Latest spotLight" *preLights* (10/01/24) , "Career News", *Nature* (10/09/24)
- Research on large-scale brain dynamics during emotion processing highlighted as the Featured Research Article in *McLean Research News* (09/02/25)

University Teaching Experience

Curriculum Development & Instructional Materials

"Building Your Teaching Style", UCSB (a website for college TAs/Instructors)	Spring 2019
"Sex Differences in Navigation from a Human Geographer's Perspective", UCSB	Spring 2020

(an interdisciplinary teaching video for undergraduate psychology, neuroscience, geography, and anthropology courses)

Instructor of Record *"Psychology Fundamentals"*, UCI	Summer 2021
Social Sciences Instructional Fellow *School of Social Sciences, UCI*	Summer 2020
Teaching Assistant	
"Human, Place and Space", UCSB	Fall 2017, Winter 2018, Spring 2018

Mentoring

HMS/MGH/McLean

Applied Neuroimaging Statistics Laboratory. *1 research data manager*	Fall 2024 - Present
Harvard University Peer Coaching Initiative (HUPCI). *1 clinical research coordinator*	Fall 2024 - Present
MIND Data Science Lab. *2 graduate research interns, 1 high school student intern*	Summer 2022 - Summer 2024
UCI	
Spatial Neuroscience Lab. *undergraduate student researchers (2 students/year)*	2019 – 2022

Graduate Division Graduate InterConnect (GIC) Program. *18 first-year international graduate students.*	2021 – 2022
School of Social Sciences Cascading Mentorship Program. *6 Cognitive Sciences Ph.D. students*	2021 – 2022
CNLM Summer Journal Club Mentorship Program. *4 high school students*	Summer 2020
Irvine Brain Bee. *3 high school students*	Winter 2020

UCSB

Spatial Neuroscience Lab. *undergraduate student researchers (1 student/year)*	2017 – 2019
Summer Research Mentorship Program (RMP). *1 high school student*	Summer 2018
Women in STEM Mentorship Program. *1 STEM major female undergraduate student*	2017 – 2018

Other

The Social Scientist. *virtual one-on-one mentorship for the STEM community*	Summer 2022 - Present
Neuromatch Academy - Computational Neuroscience Project Mentor. *27 graduate students*	Summer 2022, 2023
Científico Latino's Graduate Student Mentorship Initiative. *1 underrepresented undergraduate student*	Fall 2020

Leadership & Outreach

Colloquium Coordination Committee Member *Department of Cognitive Sciences, UCI*	Aug. 2021 – June 2022
Ambassador Program Adult Outreach Committee Co-Chair *UCI CNLM*	Oct. 2019 – Dec. 2021
Augmented Reality Sandbox Operator *Department of Geography, UCSB*	Jan. 2019 – Sept. 2019
Geography Outreach Group Member *Department of Geography, UCSB*	Sept. 2017 – Sept. 2019

Relevant Internships

Data Science Instructor for Guided Projects *Coursera, Remote*	Aug. 2020 – Feb. 2022
Teaching Assistant *Neuromatch Academy - Computational Neuroscience, Remote*	June 2020 – July 2020
Data Science Intern *National Center for Ecological Analysis and Synthesis, Santa Barbara, CA*	June 2019 – Sept. 2019
Instructor in Psychology *Guangzhou 10th Middle School, Guangzhou, China*	Sept. 2013 – Nov. 2013

Select Trainings & Certifications

Inclusive Research Training

Scholar, Sex Informed Research Collaborative Think Tank (SIRCTT) Education & Networking Program. *Connors Center for Women's Health and Gender Biology, Brigham and Women's Hospital, HMS*	2025
Recruitment, Engagement, and Retention Strategies to Improve Diversity in Clinical Research Studies Open Course. *Virtual, Division of Clinical Research, MGH*	2022
Race and Justice Studies Proseminar. *Virtual, Department of Criminology, Law, and Society, UCI*	2021

Modeling & Computing

Neurohackademy Summer School. *Virtual, eScience Institute, University of Washington*	2021

Public Speaking & Science Communication

Communicating Science Conference for Graduate Students (ComSciCon). *Virtual, ComSciCon-LA*	2021
Industry Insights for STEM Scientists Program and Certification. *Virtual, UCI-GPS STEM*	2021
Public Speaking Program and Certification by Activate to Captivate. *Virtual, Graduate Division, UCI*	2020
Science Communication Skills for STEM Scientists - Boot Camp. *Virtual, UCI-GPS STEM*	2020

Teaching & Mentoring

Cascading Mentorship Certificate. *School of Social Sciences, UCI*	2021
Improv for Teaching Program and Certification by Activate to Captivate. Graduate Division, UCI	2021
Mentoring Excellence Certificate. *UCI Graduate Division*	2020
Course Design Certificate. *UCI Division of Teaching Excellence and Innovation*	2020
Teaching Assistant Certificate. *Neuromatch Academy*	2020
Chinese Teacher's License (Psychology and Education). *South China Normal University*	2014

Professional Memberships

Organization for Human Brain Mapping OHBM)	2025
Society of Biological Psychiatry (SOBP)	2024
Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART)	2022
Women in Machine Learning (WiML)	2020
Women in Cognitive Science (WiCS)	2018