Wan-Yu Hsu, PhD

University of California, San Francisco
Sandler Neurosciences Center
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RESEARCH WORK EXPERIENCE

Associate Specialist *2019.8 – present*
Department of Neurology, University of California, San Francisco,
San Francisco, California, USA
Advisor: Riley Bove, M.D.

Clinical Scientist *2018.8 – 2019.8*
Halo Neuroscience. Inc
San Francisco, California, USA

Postdoctoral Fellow *2014.10 – 2018.7*
Department of Neurology, University of California, San Francisco,
San Francisco, California, USA
Advisors: Adam Gazzaley, M.D., Ph.D. and Theodore Zanto, Ph.D.
Conducted behavioral and electrophysiological experiments to investigate the behavioral and neural effects of non-invasive brain stimulation on cognitive functions

Visiting Scholar *2013.3 – 2014.3*
Department of Neurology, University of California, San Francisco,
San Francisco, California, USA
Examined effects of transcanial direct current stimulation (tDCS) on multitasking performance

Research Assistant *2007.9 – 2012.12*
Institute of Brain Science, School of Medicine,
National Yang-Ming University, Taipei, Taiwan
Studied changes in cortical excitability in neurological disorders by using magnetoencephalograpy (MEG) and transcranial magnetic stimulation (TMS)

CLINICAL WORK EXPERIENCE

Occupational Therapist *2009.1 – 2010.7*

Department of Physical Medicine and Rehabilitation,

Taipei Veterans General Hospital, Taipei, Taiwan

Neurorehabilitation and pediatric occupational therapy

EDUCATION

Ph.D., Brain Science *2010.9 – 2014.6*

Institute of Brain Science, School of Medicine,

National Yang-Ming University, Taipei, Taiwan

Advisor: Yung-Yang Lin, M.D., Ph.D.

Thesis: Altered Inhibitory Modulation of Motor and Somatosensory Cortices in Paroxysmal Kinesigenic Dyskinesia

M.Sc., Brain Science *2007.9 – 2009.6*

Institute of Brain Science, School of Medicine,

National Yang-Ming University, Taipei, Taiwan

Advisor: Yung-Yang Lin, M.D., Ph.D.

Thesis: Memory-based Mismatch Negativity Response to Auditory Duration Change: An MEG Study

B. Sc., Occupational Therapy *2003.9 – 2007.6*

Department of Occupational Therapy,

Chang-Gung University, Taoyuan, Taiwan

GRANTS AND AWARDS

2020-2023 Fellowship Award, National Multiple Sclerosis Society
Title: Effects of non-invasive brain stimulation on cognitive function in patients with multiple sclerosis.
Role: Principal Investigator

2013-2014 Scholarship of Graduate Student Study Abroad Program,
National Science Council, Taiwan

2012 Excellent Research Paper Publication Award and Scholarship,
National Yang-Ming University, Taipei, Taiwan

2012 Research Presentation Travel Award,
National Yang-Ming University, Taipei, Taiwan

2009 Research Presentation Travel Award,

National Yang-Ming University, Taipei, Taiwan

TEACHING AND MENTORING EXPERIENCE

Research Associate Supervisor *2018 – 2019*
Halo Neuroscience. Inc
Trained and supervised 4 research associates

Undergraduate Thesis Supervisor *2018*
Department of Neurology, University of California, San Francisco
Supervised senior thesis project for 1 undergraduate student at California State University, East Bay

Research Assistant/Intern/Visiting Scholar Supervisor *2014 – 2018*
Departments of Neurology, University of California, San Francisco
Trained and supervised 1 visiting scholar and 3 lab volunteers from the community, high schools, and undergraduate institutions

Guest Lecturer *2016.2*
Advanced Research Methods: Cognitive Neurotherapeutics
University of San Francisco
Instructor: David Ziegler
Title: Non-invasive Brain Stimulation

Graduate Student Supervisor *2012 – 2014*
Physiology Graduate Program, National Yang-Ming University
Supervised 1 master student at National Yang-Ming University

Clinical Instructor *2009 – 2010*
Department of Physical Medicine and Rehabilitation,
Taipei Veterans General Hospital, Taipei, Taiwan

JOURNAL REVIEW SERVICE

Clinical EEG & Neuroscience
Neurobiology of Aging
PLOS ONE
Cognitive, Affective, and Behavioral Neuroscience
Biological Psychiatry

LICENSURES AND CERTIFICATION

Occupational Therapist License, Taiwan *2007*

Certificate of US FDA, Drug Development, Science and Health Policy *2017*
University of California, Berkeley

Certificate Program: Clinical Research Conduct and Management *2017 - 2018*
University of California, Berkeley

INVITED TALKS

Department of Occupational Therapy *2019*
Department of M-Commerce and Multimedia Applications
Asia University, Taiwan

PEER-REVIEWED PUBLICATIONS

1. **Hsu WY**, Rowles W, Anguera J, Anderson A, Younger JW, Friedman S, Gazzaley A, Bove RM. Assessing and Improving Cognitive Function in Multiple Sclerosis with Digital Therapeutics: A Randomized Controlled Trial. (under review)

2. Johnson V, **Hsu WY**, Ostrand, A, Gazzaley A, Zanto TP. Multimodal sensory integration: Diminishing returns in rhythmic synchronization. ***Journal of Experimental Psychology: Human Perception and Performance***. 2020. (accepted)

3. Wu HM, Hsiao FJ, Chen RS, Shan DE, **Hsu WY**, Chiang MC, Lin YY. Attenuated NoGo-related beta desynchronisation and synchronisation in Parkinson's disease revealed by magnetoencephalographic recording. ***Scientific Reports***. 2019;9(1):7235.

4. **Hsu WY**, Zanto TP, Gazzaley A. Parametric effects of transcranial alternating current stimulation on multitasking performance. ***Brain Stimulation***. 2019;12(1):73-83.

5. **Hsu WY**, Zanto TP, van Schouwenburg MR, Gazzaley A. Enhancement of multitasking performance and neural oscillations by transcranial alternating current stimulation. ***PLoS One***. 2017;12(5):e0178579.

6. Hsiao FJ, **Hsu WY**,* Chen WT, Chen RS, Lin YY. Abnormal Somatosensory

Synchronization in Patients With Paroxysmal Kinesigenic Dyskinesia: A Magnetoencephalographic Study. ***Clinical EEG & Neuroscience***. 2017;48(4):288-94. [*co-first author]

7. **Hsu WY**, Zanto TP, Anguera JA, Lin YY, Gazzaley A. Delayed enhancement of multitasking performance: Effects of anodal transcranial direct current stimulation on the prefrontal cortex. ***Cortex***. 2015;69:175-85.

8. **Hsu WY**, Ku Y, Zanto TP, Gazzaley A. Effects of noninvasive brain stimulation on cognitive function in healthy aging and Alzheimer's disease: a systematic review and meta-analysis. ***Neurobiology of Aging***. 2015;36(8):2348-59.

9. **Hsu WY**, Kuo YF, Liao KK, Yu HY, Lin YY. Widespread inter-ictal excitability changes in patients with temporal lobe epilepsy: A TMS/MEG study. ***Epilepsy Research***. 2015;111:61-71.

10. Cheng CH, Soong BW, **Hsu WY**, Lin YY. Reduced automatic frontal response to auditory deviance in Huntington's disease as indexed by magnetic mismatch negativity. ***Journal of Clinical Neuroscience***. 2014;21(10):1773-8.

11. Tseng YJ, Chen RS, **Hsu WY**, Hsiao FJ, Lin YY. Reduced motor cortex deactivation in individuals who suffer from writer's cramp. ***PLoS One***. 2014;9(5):e97561.

12. **Hsu WY**, Kwan SY, Liao KK, Chen RS, Lin YY. Altered inhibitory modulation of somatosensory cortices in paroxysmal kinesigenic dyskinesia. ***Movement Disorders***. 2013;28(12):1728-31.

13. **Hsu WY**, Liao KK, Tseng YJ, Kwan SY, Chen RS, Lin YY. Reduced postmovement cortical inhibition in patients with paroxysmal kinesigenic dyskinesia. ***Neurology***. 2013;81(4):353-60.

14. Cheng CH, **Hsu WY**, Lin YY. Effects of physiological aging on mismatch negativity: a meta-analysis. ***International Journal of Psychophysiology***. 2013;90(2):165-71.

15. **Hsu WY**, Cheng CH, Liao KK, Lee IH, Lin YY. Effects of repetitive transcranial magnetic stimulation on motor functions in patients with stroke: a meta-analysis. ***Stroke***. 2012;43(7):1849-57.

16. Cheng CH, Wang PN, **Hsu WY**, Lin YY. Inadequate inhibition of redundant auditory

inputs in Alzheimer's disease: an MEG study. ***Biological Psychology***. 2012;89(2):365-73.

17. **Hsu WY**, Cheng CH, Lin MW, Shih YH, Liao KK, Lin YY. Antiepileptic effects of low frequency repetitive transcranial magnetic stimulation: A meta-analysis. ***Epilepsy Research***. 2011;96(3):231-40.

18. **Hsu WY**, Cheng CH, Lin HC, Liao KK, Wu ZA, Ho LT, Lin YY. Memory-based mismatch response to changes in duration of auditory stimuli: an MEG study. ***Clinical Neurophysiology***. 2010;121(10):1744-50.

19. Cheng CH, **Hsu WY**, Shih YH, Lin HC, Liao KK, Wu ZA, Lin YY. Differential cerebral reactivity to shortest and longer tones: neuromagnetic and behavioral evidence. ***Hearing Research***. 2010;268(1-2):260-70.

CONFERENCE PRESENTATIONS

1. Jones K, Zanto TP, Ostrand A, **Hsu WY**, Gazzaley A. Individual differences in neuroanatomy predict neurostimulation related multitasking gains in older adults. *Cognitive Neuroscience Society*. (2020, Boston, USA)

2. Gundran A, **Hsu WY**, Biane J, Leong W, Williams T, Wingeier B. Effect of tDCS on cereb ral blood flow utilizing concurrent fNIRS: A series of pilot studies. *Neuromodulation*. (2019, Napa, USA)

3. **Hsu WY**, Zanto TP, Gazzaley A. Anodal Transcranial Direct Current Stimulation of Dorsolateral Prefrontal Cortex Enhances Multitasking Performance. *Bay Area Memory Meeting.* (2013, San Francisco, USA)

4. **Hsu WY**, Kwan SY, Chen RS, Liao KK, Lin YY. Intracortical inhibition of primary and secondary somatosensory cortex in paroxysmal kinesigenic dyskinesia— An MEG study. *18th International Conference of Biomagnetism.* (2012, Paris, France)

5. Lin YY, Cheng CH, Soong BW, **Hsu WY**. Neuromagnetic responses to auditory deviance in Huntington's disease. *18th International Conference of Biomagnetism.* (2012, Paris, France)

6. Cheng CH, **Hsu WY**, Lin HC, Lin YY. Particular sensitivity of human auditory cortices to short tones. *The Journal of Japan Biomagnetism and Bioelectromagnetics Society*.

2009, 22:136-137. (2009, Kanazawa, Japan)

7. **Hsu WY**, Cheng CH, Lin HC, Lin YY. Memory-based mismatch negativity response to auditory duration change: an MEG study. *The Journal of Japan Biomagnetism and Bioelectromagnetics Society.* 2009, 22:134-135. (2009, Kanazawa, Japan)