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Education

- B.Sc. in Psychology, National Taiwan University, Taiwan (1996).
- M.Sc. in Psychology, National Chung-Cheng University, Taiwan (1998).
- PhD in Cognitive Psychology, Rice University, U. S. (2005).

Professional Positions

- Postdoctoral Fellow, Psychology Department, University of Western Ontario, Canada (2005-2006)
- Assistant Professor, Institute of Cognitive Neuroscience, National Central University, Taiwan (2007 – 2012)
- Associate Professor, Institute of Cognitive Neuroscience, National Central University, Taiwan (2012-Present)

Research Interests

- Human Motor Control and Cognition
- Relationship between Cognitive Aging and Physical Activities

Honors & Awards

- National Central University, Outstanding Advisor (中央大學優良導師獎)
- Postdoctoral trainee of the CIHR Strategic Training Grant in Vision Health Research.
- Fellowship to the 2004 Summer Institute in Cognitive Neuroscience at

Dartmouth College

- Dissertation Research Award, American Psychological Association
- Graduate Research Scholarship in Psychology, the American Psychological Foundation (APF) and the Council of Graduate Departments of Psychology (COGDOP)

Publications

Peer-reviewed Journal Articles

1. Lin, C.-T., Huang, T.-Y., Lin, W.-J., Chang, S.-Y., Lin, Y.-H., Ko, L.-W., Hung, D. L., **Chang, E. C.** (2012). Gender differences in wayfinding in virtual environments with global or local landmarks. Journal of Environmental Psychology, 32(2), 89-96. (**SCI, IF=2.649; supported by NSC99-2410-H008-065 and NSC 96-2413-H-008-003-MY3**)
2. Chiou, R., Wu, D. H., Hung, D. L., Tzeng, O. J. L., &, **Chang, E.*** (2012). Relative size of numerical magnitude induces a size-contrast effect on the grip scaling of reach-to-grasp movements. Cortex, 48, 1043-1051 (**SCI, IF=7.251; supported by NSC99-2410-H008-065 and NSC 96-2413-H-008-003-MY3**)
3. Chiou, R., **Chang, E.**, Tzeng, O. J. L., & Wu, D. H.* (2009). The common magnitude code underlying numerical and size processing for action but not for perception. Experimental Brain Research, 194(4), 553-562. (**SCI, IF=2.256 RANK: 143/224 in NEUROSCIENCES , Cited:3; supported by NSC96-2413-H-008-003-MY3**)
4. Chouinard, P. A.*, Large, M., **Chang, E.**, & Goodale, M. A. (2009). Dissociable neural mechanisms for determining the perceived heaviness of objects and the predicted weight of objects during lifting: an fMRI investigation of the size-weight illusion. NeuroImage, 44(1), 200-212. (**SCI, IF=5.739 RANK:4/105 in RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING , Cited:12**)
5. **Chang, E.***, Flanagan, J. R., & Goodale, M. A. (2008). The intermanual transfer of anticipatory force control in precision grip lifting is not influenced by the perception of weight. Experimental Brain Research, 185, 319-329. (**SCI, IF=2.195 RANK:137/209 in NEUROSCIENCES , Cited:10**)
6. **Chang, E.***, & Ro, T. (2007). Maintenance of visual stability in the human posterior parietal cortex. Journal of Cognitive Neuroscience, 19(2): 266-274. (**SCI, IF=4.867; RANK:4/72 in PSYCHOLOGY, EXPERIMENTAL , Cited:7**)
7. Olk, B., **Chang, E.**, Ro, T., & Kingstone, A. (2006). Modulation of antisaccades by transcranial magnetic stimulation of the human frontal eye field. Cerebral Cortex, 16(1), 1676-1682. (SCI)
8. **Chang, E.**, & Ro, T. (2005). Inhibition of return in perception and action. Visual Cognition, 12(3), 443-472. (SSCI) (Corresponding author)
9. Ro, T., Shelton, D., Lee, O., & **Chang, E**. (2004). Extrageniculate mediation of unconscious vision in TMS induced blindsight. Proceedings of the National Academy of Sciences, 101(26), 9933-9935. (SCI)
10. Ro, T., Farnè, A., & **Chang, E.** (2003). Inhibition of return and the human frontal eye field. Experimental Brain Research, 150(3), 290-296. (SCI)
11. Ro, T., Farnè, A., & **Chang, E.** (2002). Locating the human frontal eye field with transcranial magnetic stimulation. Journal of Clinical and Experimental

Neuropsychology, 24(7), 926-936. (SCI)

12. Wang, W. C., & **Chang, C.** (1998). Rasch likelihood ratio test of item differential functioning. *Chinese Journal of Psychology, 40*, 15-32. (TSCI)

Book Chapter

Chang, E. C. (2010). How to understand brain imaging studies (如何看懂腦功能研究). In J. R. Li & C. H. Juan (Eds.), *Learn to read & read to learn (大腦、認知與閱讀).* Hsin-Yi Foundation Publisher, Taipei, Taiwan (ISBN 978-986-161-401-4).

Submitted Patent

Lin, C. T., Chen, A. B., Lin, W. Y., Chang, E. C., Chung, K. W., Liu, T. C., et al. (2011). Taiwan Patent Announced ID. 201112987. M. o. E. Intellectual Property Office (**under review**).

Manuscripts in preparation

1. Lin, C. T., Huang, T. Y., Lin, W. J., Ko, L. W., Hsieh, J. R., Yeh, T. C., Tzeng, R. Y., Hung, D. L., & **Chang, E. C.** (in preparation). Blood-Oxygen-Level-Dependent (BOLD) signals associated with the processing of global and local landmarks in human wayfinding behavior.
2. Lin, W. J., Huang, T. Y., Lin, C. T., Hung, L. D., & Chang, E. C. (in preparation). The contributions of global and local object landmarks in human wayfinding behavior.
3. Chiou, R., Wu, D. H., Hung, D. L., Tzeng, O. J. L., & **Chang, E. C.** (in preparation). Relative size of numerical magnitude induces a size-contrast effect on the grip scaling of reach-to-grasp movements.
4. Han, J., Hung, D. L., Tzeng, O. J. L., & **Chang, E. C.** (in preparation). Does unconscious observation of manual actions induce action priming?