

CURRICULUM VITAE

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EDUCATION

2003-2009 Ph.D. in Psychology, Department of Psychology, National Taiwan University, Taipei, Taiwan.
2001-2003 M.Sc. in Psychology, Department of Psychology, National Taiwan University, Taipei, Taiwan.
1994-1998 B.Sc. in Psychology, Department of Psychology, Soochow University, Taipei, Taiwan.

ACADEMIC EXPERIENCES

2017 - present Associate Professor at the Department of Psychology, National Taiwan University.
2013 – 2017 Assistant Professor at the Department of Psychology, National Taiwan University.
2011 – 2013 Assistant Professor at the Department of Psychology and Research Center for Mind, Brain & Learning, National Chengchi University.
2009 – 2011 Postdoctoral research fellow in the Brain & Cognition Laboratory (headed by Professor Kia Nobre) at the Department of Experimental Psychology in the University of Oxford (funded by the Wellcome Trust, UK).

RESEARCH INTERESTS

My current research explores the role of selective attention in perception, working memory, long-term memory, and flexible response selection. I am particularly interested in how these

core cognitive functions are integrated for goal-directed adaptive behaviour. My research converges multiple cognitive and brain imaging methods including behavioural measures, functional magnetic resonance imaging (fMRI), event-related potentials (ERP), electroencephalography (EEG), magnetoencephalography (MEG), and brain stimulation (e.g. transcranial magnetic stimulation, TMS; transcranial direct current stimulation, tDCS) as well as functional connectivity and multivariate pattern classification analysis approaches to establish the link between brain and behaviour.

MANUSCRIPTS in review or preparation * Corresponding author

- (1) Ya-Ting Chen, Freek van Ede, **Bo-Cheng Kuo** * (revision). Alpha oscillation tracks memory-content-specific capacity, not the number of items, of visual working memory.
- (2) Fang-Wen Chen, Chun-Hui Li, **Bo-Cheng Kuo** * (revision). Temporal expectation built from the variability of delay duration modulates alpha oscillation during working memory maintenance.
- (3) **Bo-Cheng Kuo**, Lu-Chun Yeh, Chao-Shiung Chang, Fang-Wen Chen, Chang-Wei Hsieh, Yei-Yu Yeh* (under review). Before you pull the trigger: Oscillatory correlates of aiming to shoot.
- (4) Chun-Hui Li, Man-Ying Wang, **Bo-Cheng Kuo** * (in preparation). Spatiotemporal dynamics of face-like inversion effect as revealed by Chinese characters using magnetoencephalography.
- (5) Ya-Ping Chen, Jun Saiki, **Bo-Cheng Kuo** * (in preparation). The interplay of location and color-letter binding representation in visual working memory: Evidence from cortical alpha oscillations using magnetoencephalography.

PUBLICATIONS * Corresponding author

- (1) Chun-Hui Li, Man-Ying Wang, **Bo-Cheng Kuo** * (2022). The effects of stimulus inversion on the neural representations of Chinese character and face recognition. *Neuropsychologia*, 164, 108090.
- (2) Hong-Yi Wu, **Bo-Cheng Kuo**, Chih-Mao Huang, Pei-Jung Tsai, Ai-Ling Hsu, Li-Ming Hsu, Chi-Yun Liu, Jyh-Horng Chen, Changwei W. Wu* (2020). Think hard or think smart: Network reconfigurations after divergent thinking associate with creativity performance. *Frontiers in Human Neuroscience*, 14(571118).
- (3) Lu-Chun Yeh, Yei-Yu Yeh, **Bo-Cheng Kuo*** (2019). Spatially specific attention mechanisms are sensitive to competition during visual search. *Journal of Cognitive Neuroscience*, 31(8), 1248-1259.
- (4) **Bo-Cheng Kuo***, Szu-Hung Lin, Yei-Yu Yeh* (2018). Functional interplay of top-down attention with affective codes during visual short-term memory maintenance. *Cortex*,

103, 55-70.

- (5) **Bo-Cheng Kuo***, Chun-Hui Li, Szu-Hung Lin, Sheng-Hung Hu, Yei-Yu Yeh* (2017). Top-down modulation of activity and pattern similarity of alpha oscillation for threatening representations in visual short-term memory. *Neuropsychologia*, 106, 21-30.
- (6) **Bo-Cheng Kuo*** (2016). Selection history modulates working memory capacity. *Frontiers in Psychology*, 7(1564).
- (7) **Bo-Cheng Kuo**, Anna Christina Nobre, Gaia Scerif, Duncan E. Astle* (2016). Top-down activation of spatiotopic sensory codes in perceptual and working-memory search. *Journal of Cognitive Neuroscience*, 28(7), 996-1009.
- (8) Duncan E. Astle*, Henry Luckhoo, Mark Woolrich, **Bo-Cheng Kuo**, Anna C. Nobre, Gaia Scerif (2015). The neural dynamics of fronto-parietal networks in childhood revealed using magnetoencephalography. *Cerebral Cortex*, 25(10), 3868-3876.
- (9) **Bo-Cheng Kuo***, Mark Stokes, Alexandra M. Murray, Anna C. Nobre (2014). Attention biases visual activity in visual short-term memory. *Journal of Cognitive Neuroscience*, 26(7), 1377-1389.
- (10) Andria Shimi*, **Bo-Cheng Kuo**, Duncan E. Astle, Gaia Scerif, Anna C. Nobre (2014). Age group and individual differences in attentional orienting dissociate neural mechanisms of encoding and maintenance in visual STM. *Journal of Cognitive Neuroscience*, 26(4), 864-877.
- (11) **Bo-Cheng Kuo***, Duncan E. Astle (2014). Neural mechanisms by which attention modulates the comparison of remembered and perceptual representations. *PLoS ONE*, 9(1): e86666.
- (12) Yei-Yu Yeh*, Hsuan-Fu Chao, Yang-Ming Huang, **Bo-Cheng Kuo**, Cheng-Ta Yang, Chun-Yu Kuo, Szu-Hung Lin (2013). The role of representations in Selection. *Chinese Journal of Psychology*, 55(3), 319-342. In Chinese.
- (13) **Bo-Cheng Kuo***, Mark G. Stokes, Anna C. Nobre (2012). Attention modulates maintenance of representations in visual short-term memory. *Journal of Cognitive Neuroscience*, 24(1), 51-60.
- (14) **Bo-Cheng Kuo**, Rotshtein Pia, Yei-Yu Yeh* (2011). Attentional modulation of perceptual comparison for feature binding. *Brain and Cognition*, 77, 335-344.
- (15) Man-Ying Wang*, **Bo-Cheng Kuo**, Shih-Kuen Cheng (2011). Chinese characters elicit face-like N170 inversion effects. *Brain and Cognition*, 77, 335-344.
- (16) **Bo-Cheng Kuo**, Yei-Yu Yeh, Anthony J.-W. Chen, Mark D'Esposito* (2011). Functional connectivity during top-down modulation of visual short-term memory representations. *Neuropsychologia*, 49, 1589-1596.
- (17) **Bo-Cheng Kuo**, Anling Rao, Jöran Lepsien, Anna C. Nobre* (2009). Searching for targets within the spatial layout of visual short-term memory. *Journal of Neuroscience*, 29,

8032-8038.

- (18) Duncan E. Astle*, Gaia Scerif, **Bo-Cheng Kuo**, Anna C. Nobre (2009). Spatial selection of features within perceived and remembered objects. *Frontiers in Human Neuroscience*, 3:6.
- (19) ChiHong Wang, YauYau Wai, **BoCheng Kuo**, Yei-Yu Yeh, JiunJie Wang* (2008). Cortical control of gait in healthy humans: an fMRI study. *Journal of Neural Transmission*, 115, 1149-1158.
- (20) **Bo-Cheng Kuo**, Yei-Yu Yeh*, Der-Yow Chen, Keng Chen Liang, Jyh-Horng Chen (2008). The capacity constraint in the prefrontal and parietal regions for coordinating dual arithmetic tasks. *Brain Research*, 1199, 100-110.
- (21) Yei-Yu Yeh*, **Bo-Cheng Kuo**, Ho-Ling Liu* (2007). The neural correlates of attention orienting in visuospatial working memory for detecting feature and conjunction changes. *Brain Research*, 1130, 146-157.

Selected conference presentations

- (1) Chun-Hui Li, **Bo-Cheng Kuo**, 2021. Top-down attention modulates spatiotemporal dynamics of object selectivity: An MEG-fMRI fusion study. 2021 Annual Meeting of the Organization for Human Brain Mapping. (OHBM 2021 Merit Abstract Award)
- (2) Ya-Ting Chen, **Bo-Cheng Kuo**, 2021. The effects of stimulus type and presentation mode on load-dependent alpha oscillations during working memory maintenance. 2021 Annual Meeting of the Organization for Human Brain Mapping.
- (3) Lu-Chun Yeh, **Bo-Cheng Kuo**, 2021. Searching for a target among similar competitors. Cognitive Neuroscience Society 2021 Annual Meeting.
- (4) Fang-Wen Chen, **Bo-Cheng Kuo**, 2021. Temporal expectation modulates neural dynamics of working memory representations. Cognitive Neuroscience Society 2021 Annual Meeting.
- (5) Ya-Ping Chen, **Bo-Cheng Kuo**, 2019. Retrospective searching for feature binding of color and letter from within visual working memory representations. 2019 Annual Meeting of the Organization for Human Brain Mapping. Rome, Italy.
- (6) Ya-Ting Chen, **Bo-Cheng Kuo**, 2019. The effects of memory load and stimulus type on alpha oscillation during working memory maintenance. 2019 Annual Meeting of the Organization for Human Brain Mapping. Rome, Italy.
- (7) Chun-Hui Li, **Bo-Cheng Kuo**, 2019. Pattern similarity in neural representations for the inversion effect of face and Chinese Character. 2019 Annual Meeting of the Organization for Human Brain Mapping. Rome, Italy.
- (8) Lu-Chun Yeh, Yei-Yu Yeh, **Bo-Cheng Kuo**, 2019. Spatially-specific attention mechanisms

are sensitive to competition during visual search. 2019 Annual Meeting of the Organization for Human Brain Mapping. Rome, Italy.

- (9) **Bo-Cheng Kuo**, 2019, Top-down modulation of delayed response for visual short-term memory. Cognitive Neuroscience Society 2019 Annual Meeting. San Francisco, U.S.A..
- (10) **Bo-Cheng Kuo**, 2018, Neural mechanisms of perceptual comparison process for detecting feature-binding changes. Cognitive Neuroscience Society 2018 Annual Meeting. Boston, U.S.A..
- (11) Ya-Ping Chen, **Bo-Cheng Kuo**, 2017. The influences of selection history on working memory: An EEG study. 13th International Conference for Cognitive Neuroscience. Amsterdam, Netherlands.
- (12) Fang-Wen Chen, **Bo-Cheng Kuo**, 2017. Response anticipation activates silent states in working memory. 13th International Conference for Cognitive Neuroscience. Amsterdam, Netherlands.
- (13) Tzu-Han Cheng, Chun-Hui Li, **Bo-Cheng Kuo**, 2017. Expectation for response difficulty influences alpha activity in visual short-term memory. 13th International Conference for Cognitive Neuroscience. Amsterdam, Netherlands.
- (14) Lu-Chun Yeh, Yei-Yu Yeh, **Bo-Cheng Kuo**, 2017. Modulations of neural activity by target-nontarget competition. 13th International Conference for Cognitive Neuroscience. Amsterdam, Netherlands.
- (15) **Bo-Cheng Kuo**, Yei-Yu Yeh, 2017. Top-down modulation of threatening representations in visual working memory. Cognitive Neuroscience Society 2017 Annual Meeting. San Francisco, U.S.A..
- (16) **Bo-Cheng Kuo**, Yei-Yu Yeh, 2016. Oscillatory mechanism mediates interference from emotional distraction in visual working memory. The 22nd Annual Meeting of the Organization for Human Brain Mapping. Geneva, Switzerland.
- (17) **Bo-Cheng Kuo**, 2015, Retrospective versus reflective modulation of internal representations. Cognitive Neuroscience Society 2015 Annual Meeting. San Francisco, U.S.A..
- (18) **Bo-Cheng Kuo**, 2014, Efficacy of attentional modulation of visual activity in visual short-term memory. The 12th International Conference on Cognitive Neuroscience. Brisbane, Australia.
- (19) **Bo-Cheng Kuo**, Duncan E. Astle, 2014, Neural mechanisms by which attention modulates the comparison of remembered and perceptual representations. Cognitive Neuroscience Society 2014 Annual Meeting. Boston, U.S.A..
- (20) **Bo-Cheng Kuo**, Duncan E. Astle, Gaia Scerif, Mark W. Woolrich, Anna Christina Nobre, 2013, Searching for targets within visual short-term memory versus perceptual representations: A magnetoencephalographic study. Cognitive Neuroscience Society 2013 Annual Meeting. San Francisco, U.S.A..

- (21) **Bo-Cheng Kuo**, Mark Stokes, Alexandra M. Murray, Anna Christina Nobre, 2012, Attention biases visual activity in working memory. Cognitive Neuroscience Society 2012 Annual Meeting. Chicago, U.S.A..(Oral presentation)
- (22) **Bo-Cheng Kuo**, Mark Stokes, Anna Christina Nobre, 2010. Attentional modulation of representation in VSTM. The 16th annual meeting of the Organization of Human Brain Mapping. Barcelona, Spain.
- (23) **Bo-Cheng Kuo**, Anling Rao, Jöran Lepsien, Anna Christina Nobre, 2009. Searching for targets within the spatial layout of visual short-term memory. Cognitive Neuroscience Society 2009 Annual Meeting. San Francisco, U.S.A..
- (24) **Bo-Cheng Kuo**, Yei-Yu Yeh, Anthony J.-W. Cheng, Mark D'Esposito, 2008. Functional connectivity in coordinating incongruent memory processes of dual n-back task. Cognitive Neuroscience Society 2008 Annual Meeting. San Francisco, U.S.A..
- (25) **Bo-Cheng Kuo**, Yei-Yu Yeh, Keng-Chen Liang, Jyh-Horng Chen, 2007. The neural effect of operation-response configuration on dual-task performance: an event-related fMRI study. Cognitive Neuroscience Society 2007 Annual Meeting. New York, U.S.A..
- (26) **Bo-Cheng Kuo**, Yei-Yu Yeh, Yu-Lin Chen, Keng Chen Liang, Der-Yow Chen, Jyh-Horng Chen, 2006. The role of anterior cingulate cortex in coordinating similar dual tasks. *NeuroImage*, 31, Supplement 1, s83. The 12th Annual Meeting of Organization for Human Brain Mapping, Florence, Italy.
- (27) **Bo-Cheng Kuo**, Yei-Yu Yeh, Ho-Ling Liu, Keng Chen Liang, Jyh-Horng Chen, 2006. Processing proximity influences the neural activation in coordinating dual arithmetic tasks: an event-related fMRI study. Cognitive Neuroscience Society 2006 Annual Meeting. San Francisco, U.S.A..
- (28) **Bo-Cheng Kuo**, Chi-Hong Wang, Yu-Lin Chen, Yei-Yu Yeh, 2005. The effect of post-cueing onset time on the rehearsal of visuospatial memory: An event-related fMRI study. The 44th Annual Meeting for Taiwanese Psychological Association, Taoyuan, Taiwan.
- (29) **Bo-Cheng Kuo**, Yei-Yu Yeh, Der-Yow Chen, Keng Chen Liang, Jyh-Horng Chen, 2005. Operation congruency influences the neural correlates for coordinating dual arithmetic tasks. Cognitive Neuroscience Society 2005 Annual Meeting. New York, U.S.A..
- (30) **Bo-Cheng Kuo**, Yei-Yu Yeh, 2005. The effect of concurrent memory load on spatial working memory. The International Conference on Attentional Control, Chia-Yi, Taiwan.
- (31) **Bo-Cheng Kuo**, Yei-Yu Yeh, 2004. Rehearsal of a spatial location. The 28th International Congress of Psychology, Beijing, China.
- (32) **Bo-Cheng Kuo**, Yei-Yu Yeh, Chia-Fang Chen, Jyh-Horng Chen, 2004. The neural mechanisms of coordinating dual arithmetic operations. *NeuroImage*, 22, Supplement 1, TH 70. The 10th Annual Meeting of Organization for Human Brain Mapping, Budapest, Hungary.
- (33) **Bo-Cheng Kuo**, Yei-Yu Yeh, 2003. The role of selective attention in spatial working

memory. The 42nd Annual Meeting for Chinese Psychological Association, Taipei, Taiwan.
(34) **Bo-Cheng Kuo**, Yei-Yu Yeh, Ho-Ling Liu, 2003. Cueing effect in visual short-term memory. *NeuroImage*, 19, Supplement, 1592. The 9th Annual Meeting of Organization for Human Brain Mapping, New York, U.S.A.