Curriculum Vitae (last update : 2020.03.17)

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Education

Institution	Degree	Period	Degree
Yonsei University Seoul, South Korea	Bachelor	2011.03 – 2015.08	B.A. in Psychology (1st), Business Admin. (2nd), Theology (3rd)
Yonsei University Seoul, South Korea	Master	2015.09 – 2017.08	M.A. in Psychology (Advisor: Jee Hyun Choi, Min-Shik Kim)
KAIST Daejeon, South Korea	Doctor	2017.09 - present	Ph.D. in Brain & Cognitive Engineering (Advisor: Jee Hyun Choi, Se-Bum Paik)

Honors & Scholarship

2011.03 – 2015.08.	**- Talent-fostering program & scholarship by NH Foundation, NACF ($20,000)**
2011.03 – 2011.08.	**- Awarded honors student by University College, Yonsei Univ.**
2013.03 – 2014.02.	**- Yonsei scholarship by Yonsei Univ. ($1,100)**
2016.03 – 2017.08.	**- Eagle tutoring program & TA scholarship (Psych. Statistics) by OSE Center, Yonsei Univ. ($1,000)**
2017.03 – 2017.08.	**- Brain Korea 21+ Fellowship by Dept. of Psychology, Yonsei Univ. ($4,000)**
2017.05.	**- Outstanding academic paper award by Graduate School, Yonsei Univ.**
2017.08.	**- Outstanding academic poster award by Korean Computational Neuroscience Society, Seoul, South Korea**

Main research methodology

Systems Neuroscience	**- Neural data interpretation and theoritization**
	- Optogenetics using transgenic animal model
	- EEG/LFP (from animal surgery to data acquisition)
Computational Neuroscience	**- Quantitative data analysis using MATLAB/Python (EEG/LFP, fMRI, behavioural data)**
	- Computer simulation using MATLAB/Python
Cognitive Psychology	**- Behavioural experiment (Psychophysics) design**
Engineering	**- Experimental setup implementation for human and animal model**
	- Machine learning for data analysis (Tensorflow, Keras, Scikit-learn)

Publications (corresponding author)*

Han H.-B.* (2020). Rotational snapping: Illusory rhythmicity induced by global and local motion binding, *bioRxiv, https://doi.org/10.1101/2020.02.03.931758*

Han H.-B., Lee K.E., & Choi J.H.* (2019). Functionally dissociated theta oscillations in the frontal and visual cortices and their long-range network during sustained attention, *eNeuro, 6*(6), 4 November 2019, ENEURO.0248-19.2019; DOI: https://doi.org/10.1523/ENEURO.0248-19.2019

Han H.-B., Hwang E., Lee S., Kim M.-S., & Choi J.H.* (2017). Gamma-Band Activities in Mouse Frontal and Visual Cortex Induced by Coherent Dot Motion, *Scientific Reports*, *7*, 43780.

Han H.-B. (2016). Distinctive BOLD Connectivity Patterns in the Schizophrenia Brain: Machine-learning based comparison between various connectivity measures, *bioRxiv*, 084160.

Kum J., Kim J.W., Braubach O., Ha J.-G., Cho H., Kim C.-H., **Han H.-B.**, Choi J.H.*, & Yoon J.-H.* (2019). Neural Dynamics of Olfactory Perception: Low- and High-frequency Modulations of Local Field Potential Spectra in Mice Revealed by an Oddball Stimuli. *Frontiers in Neuroscience*.

Hwang E., Brown R. E., Kocsis B., Kim T., McKenna J. T., McNally J. M., **Han H.-B.**, & Choi J. H. (2019). Optogenetic stimulation of basal forebrain parvalbumin neurons modulates the cortical topography of auditory steady-state responses. *Brain Structure and Function*, 1-14.

Kum, J.E., **Han, H.-B.**, & Choi, J.H.* (2016). Pupil Size in Relation to Cortical States during Isoflurane Anesthesia. *Experimental neurobiology, 25*(2), 86-92.

Poster/Oral Presentations (corresponding author)*

(Poster) **Han H.-B.**, Lee K.E., & Choi J.H.* (To be presented). Fronto-visual long-range synchrony as a coupling between functionally distinct cortical oscillators. FENS 2020 meeting, *Federations of European Neuroscience Society*, Glasgow, UK.

(Oral) **Han H.-B.**, Lee K.E., & Choi J.H.* (2019). Functional dissociation of EEG theta rhythms between prefrontal and visual cortices and their synchronization during sustained attention, Annual meeting of Cognitive Neuroscience Society, San Francisco, USA.

(Poster) **Han H.-B.**, Hwang E., Lee S., Kim M.-S., & Choi J.H.* (2017), Cortical oscillatory network for perceptual binding in mice, Neuroscience 2017, Society for Neuroscience, Washington DC, USA.

(Poster) **Han H.-B.,** Kum J., Lee S., Kim B., Jung Y., Hwang E., & Choi J.H.* (2016), Induced gamma-band oscillations in mouse frontal cortex during coherent motion perception, CINP World Congress of Neuropsychopharmacology 2016, Seoul, South Korea.

(Poster) **Han H.-B.**, Kim T.G., Lee Y., Lee J.-H., & Hong. I.* (2014), The Role of Cognitive Control Resource on Misattribution of Negative Affect, Cognitive Neuroscience Society Conference 2014, Seoul, South Korea.

(Poster) **Han H.-B.***, Jang H.J., Im Y., Kim E.T., Lee K.Y., Jeong K.J., Kim S.H. Kong H.I. Lee S.M. Cho H.Y. & Min S. (2014), The Adaptive Value of Social Cue: Masked gaze cue produces shift of spatial attention in the aversive context, Korean Psychological Society Annual Conference 2014, Seoul, South Korea.

(Poster) Lee K.E., **Han H.-B.**, & Choi J.H.* (2019). Baso-cortical and cortico-cortical gamma oscillations represent distinct attentional networks predicts of opposite trial outcomes. Annual meeting of Cognitive Neuroscience Society, San Francisco, USA.

(Poster) Hwang E., **Han H.-B.**, Kim B., Brown R.E.,, McCarley R.W., McKenna J.T., Kim T., & Choi J.H. (2017), Cortically projecting parvalbumin positive neurons in basal forebrain mediate top-down processing by reorganizing gamma oscillation network, Neuroscience 2017, Society for Neuroscience, Washington DC, USA.

(Poster) Choi J.H.*, Hwang E., Kim B., **Han H.-B.**, Brown R., McCarley R., McKenna J.T., & Kim T. (2016), Cortically projecting basal forebrain parvalbumin positive neurons regulate top-down processing in mice, Neuroscience 2016, Society for Neuroscience, San Diego, USA.

(Poster) Hwang E., Kim B., **Han H.-B.**, Kim T., Choi J.H.* (2015). Topographic mapping of neocortical oscillations elicited by optogenetic modulation of basal forebrain parvalbumin neurons, Society for Neuroscience 2014, Chicago, USA.