CURRICULUM VITAE

Tsukasa Kamigaki, Ph.D.

PERSONAL DETAILS

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EMPLOYMENT HISTORY

2019-Current: Assistant Professor, Nanyang Technological University, Singapore

2011-2019: Postdoctoral Fellow, University of California, Berkeley, USA

2010-2011: Postdoctoral Fellow, The University of Tokyo School of Medicine, Tokyo, Japan

EDUCATION

2010: Ph.D. (Medical Science)
Cognitive neuroscience and neurophysiology in primates, The University of Tokyo School of Medicine, Tokyo, Japan (Supervisor: Yasushi Miyashita; Thesis Committee Chair: Haruo Kasai)

2004: B.S. (Liberal Arts)
Language processing in the human brain,The University of Tokyo Graduate School of Arts and Sciences, Tokyo, Japan (Supervisor: Sakai Kuniyoshi)

PUBLICATION LIST

Ranjbar-Slamloo Y., Chong HR., and **Kamigaki T.** (2025). Aging disrupts the link between network centrality and functional properties of prefrontal neurons during memory-guided behavior. *Communications Biology*, 8: 62.

Chong HR, Ranjbar-Slamloo Y, Ho MZH, Ouyang X, and **Kamigaki T**. (2023). Functional alterations of the prefrontal circuit underlying cognitive aging in mice. *Nature Communications*. 14(1):7254

Chia XW, Tan JK, Ang LF, **Kamigaki T,** and Makino H. (2023). Emergence of cortical network motifs for short-term memory during learning. *Nature Communications*. 14(1):6869

Hu, F., **Kamigaki, T.**, Zhang, Z., Zhang, S., Dan, U., & Dan, Y. (2019). Prefrontal Corticotectal Neurons Enhance Visual Processing through the Superior Colliculus and Pulvinar Thalamus. *Neuron*, 104(6), 1141-1152.e1144.

Kamigaki T. Dissecting executive control circuits with neuron types. *Neuroscience Research,* 141, 13-22 (2019).

Kamigaki T. Prefrontal circuit organization for executive control. *Neuroscience Research,* 140, 23-36 (2019).

Kamigaki T., and Dan Y. Delay Activity of Specific Prefrontal Interneuron Subtypes Modulates Memory-Guided Behavior. *Nature Neuroscience*, 20, 854-863 (2017).

Zhang S., Xu M., **Kamigaki T.**, Hoang Do J. P., Chang W. C., Jenvay S., Miyamichi K., Luo L., and Dan Y. Long-Range and Local Circuits for Top-Down Modulation of Visual Cortex Processing. *Science*, 345, 660-665 (2014).

Kamigaki T., Fukushima T., Tamura K., and Miyashita Y. Neurodynamics of cognitive set shifting in monkey frontal cortex and its causal impact on behavioral flexibility. *Journal of Cognitive Neuroscience*, 24, 2171-2185 (2012).

Matsui T., Koyano K.W., Tamura K., Osada T., Adachi Y., Miyamoto K., Chikazoe J., **Kamigaki T.**, and Miyashita Y. fMRI activity in the macaque cerebellum evoked by intracortical microstimulation of the primary somatosensory cortex: evidence for polysynaptic propagation. *PLoS ONE,* 7, e47515 (2012).

Kamigaki T., Fukushima T., and Miyashita Y. Neuronal signal dynamics during preparation and execution for behavioral shifting in macaque posterior parietal cortex. *Journal of Cognitive Neuroscience*, 23, 2503-2520 (2011).

Kamigaki T., Fukushima T., and Miyashita Y. Cognitive set reconfiguration signaled by macaque posterior parietal neurons. *Neuron*, 61, 941-951 (2009).

AWARDS/GRANTS

MOE Academic Research Fund Tier 2 (2025-2010)

MOE Academic Research Fund Tier 1 (2025-2028)

MOE Academic Research Fund Tier 2 (2021-2026)

MOE Academic Research Fund Tier 1 (2021-2024)

MOE Academic Research Fund Tier 1 (seed funding) (2020-2023)

MCB Outstanding Postdoc Award in Neurobiology at UC Berkeley (2018)

Japan Neuroscience Society Young Investigator Award (2018)

Human Frontier Science Program (HFSP) Long-Term Fellowships (2012-2015)

The Uehara Memorial Foundation Postdoctoral Fellowship (2011)

Best Poster Award, UCSF Neuroscience Workshop (2009)

Research Fellowships for Young Scientists (DC1), Japan Society for the Promotion of Science (JSPS) (2007-2010)

OTHERS

Invited Presentations

Age-related disruption of connectivity-function coupling in the prefrontal cortex, *Neuroscience Seminar, University of Tokyo*, Japan, July 2025.

Aging impact on the association between network centrality and functional properties of prefrontal neurons, *NEURO2025, Annual Meeting of the Japan Neuroscience Society*, Japan, July

2025.

Alterations in the prefrontal circuitry underlying cognitive aging, *RIKEN CBS-NTU Workshop*, Japan, November 2024.

Functional alterations of the prefrontal circuit underlying cognitive aging in mice, *Satellite Program at Kagoshima University, NEURO2024, Towards an Integrative Understanding from Neural Element Computation to Individual Behavior*, Japan, July 2024

Aging-Induced Alterations in the Prefrontal Working Memory Circuit, *KumamonN-Net Neuroscience seminar at Kumamoto University*, Japan, July 2024.

Age-dependent functional alterations of the mouse medial prefrontal circuit, *NEURO2024, Annual Meeting of the Japan Neuroscience Society*, Japan, July 2024.

Aging impact on the mouse prefrontal circuit, *23rd HFSP Awardees Meeting*, USA, June 2024.

The ageing prefrontal cortex, *LKC-UBC joint virtual symposium on Brain Mechanisms of Dementia*, Singapore, February 2023.

Neural signatures of working memory ageing in the prefrontal cortex, *RIKEN-NTU Neuroscience Workshop*, Singapore, September 2022.

Neural signatures of cognitive ageing, *NBD Virtual Seminar at Neuroscience & Behavioural Disorders Programme, Duke-NUS*, Singapore, January 2022.

Optical dissection of the neural basis underlying executive control, *SingHealth Duke-NUS Scientific Congress*, Singapore, September 2021.

Cortical organisation of working memory, *Imperial UK DRI - LKC Medicine Dementia Workshop*, November 2020.

Executive Function in the Mouse Brain, NTU-MIND Symposium on Learning & Memory II, Singapore, October 2020.

Toward understanding the brain circuits for working memory, *Neuroscience Singapore, Annual Symposium of the Singapore Chapter of the Society for Neuroscience,* Singapore, September 2019.

Circuit mechanisms for working memory, *Korea Brain Research Institute LKC-Medicine Workshop*, Korea, October 2019

Circuit mechanisms for working memory, *Korea Institute of Science and Technology LKC-Medicine Seminar*, Korea, September 2019

Local and long-range circuit mechanisms for working memory, *Seminar*, Kyoto University Graduate School of Medicine, Kyoto, Japan, August 2018.

Local and long-range circuit mechanisms underlying memory-guided behavior, *Seminar*, Osaka City University Graduate School of Medicine, Osaka, Japan, August 2018.

Local and long-range circuits underlying memory-guided behavior, *Seminar*, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan, July 2018.

Optical Dissection of Prefrontal Microcircuits for Working Memory, *BSI Forum*, RIKEN Brain Science Institute, Saitama, Japan, July 2017.

Prefrontal cortical microcircuits for memory-guided behavior, *Seminar*, National Institute for Physiological Sciences, Aichi, Japan, July 2017.

Prefrontal circuits for memory-guided behavior, *WPI-IIIS Seminar*, International Institute for Integrative Sleep Medicine, University of Tsukuba, Ibaraki, Japan, July 2017.

Prefrontal cortical mechanisms for memory-guided behavior, *UCSC Neuroclub*, UCSC Biomedial Research, University of California, Santa Cruz, Santa Cruz, CA, October 2016.

Cognitive set-shifting mechanisms in the macaque parietal cortex, *Annual Meeting of the Japan Neuroscience Society*, Kobe, Japan, September 2010.

Book Chapter

Fukushima T., Kasahara H., **Kamigaki T.,** and Miyashita Y. (2008). High-Level Visual Processing. (pp. 11-28). *The Senses: A Comprehensive Reference* (ed. Masland, R., Albright T.), Elsevier.

Fukushima T., Kasahara H., **Kamigaki T.,** and Miyashita Y. (2008). Memory Representation. (number 750) *New Encyclopedia of Neuroscience* (ed. Squire, L.R.), Elsevier.