

# CURRICULUM VITAE

**Tsukasa Kamigaki, Ph.D.**

## PERSONAL DETAILS

**Affiliation:** The Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

**Google Scholar:** [Link to Google Scholar](#)

**ResearchGate:** [https://www.researchgate.net/profile/Tsukasa\\_Kamigaki](https://www.researchgate.net/profile/Tsukasa_Kamigaki)

## EDUCATION

- 2004-2010    Ph.D. (Medicine)    Cognitive neuroscience and neurophysiology in primates, The University of Tokyo School of Medicine, Tokyo, Japan (Yasushi Miyashita Lab)
- 2004-2004    B.S. (Neuroscience)    Language processing in the human brain, The University of Tokyo Graduate School of Arts and Sciences, Tokyo, Japan (Kuniyoshi Sakai Lab)

## EMPLOYMENT HISTORY

- 2019-current    Assistant Professor, Nanyang Technological University, Singapore
- 2011-2019    Postdoctoral Fellow, University of California, Berkeley, USA
- 2010-2011    Project Researcher, The University of Tokyo School of Medicine, Tokyo, Japan

## FUNDING INFORMATION

- 2012-2015    Human Frontier Science Program (HFSP) Long-Term Fellowships  
Annual research allowance: \$4,920 (\$14,760 total)  
Annual living allowance: \$53,420 (\$160,260 total)
- 2011-2012    The Uehara Memorial Foundation Postdoctoral Fellowship  
Annual living allowance: ¥4,000,000 (approx. \$40,000)
- 2007-2010    Research Fellowships for Young Scientists (DC1), Japan Society for the Promotion of Science (JSPS),  
Annual research allowance: ¥900,000 (approx. \$9,000/year, \$27,000 total)  
Annual living allowance: ¥2,400,000 (approx. \$24,000/year, \$72,000 total)

## AWARDS

- 2018    MCB Outstanding Postdoc award in Neurobiology at UC Berkeley
- 2018    Japan Neuroscience Society Young Investigator Award
- 2012-2015    Human Frontier Science Program (HFSP) Long-Term Fellowships
- 2011-2012    Postdoctoral Fellowships, The Uehara Memorial Foundation
- 2012    Postdoctoral Fellowships for Research Abroad, Japan Society for the Promotion of Science (JSPS)
- 2007-2010    Research Fellowships for Young Scientists, Japan Society for the Promotion of Science (JSPS)
- 2009    Best Poster Award, UCSF Neuroscience Workshop

## TEACHING AND MENTORING

### Teaching Assistant:

Annual physiology training course for medical students, The University of Tokyo School of Medicine, 2004-2010. In this course, I taught experimental techniques including intracellular recording from frog muscle samples, electrocardiogram (ECG) from humans and frogs, and psychophysics on human vision.

### Mentor of graduate/undergraduate students for laboratory research:

H.B. (UC Berkeley, 2018): Mentor on Graduate student program.

Mentoring research experiments including aseptic survival surgery, animal behavioral training, behavioral data collection/analysis, calcium imaging data collection and histology.

M.Y.Z. (UC Berkeley, 2015-2016): Mentor on the department Honors Thesis Program.

Teaching research experiments including aseptic surgery, animal behavioral training, behavioral data collection/analysis, calcium imaging data collection and histology.

N.P. (UC Berkeley, 2013-2015): Mentor on Biology Fellows Program.

Teaching animal behavioral training, and histology, behavioral data collection and analysis.

C.T. (UC Berkeley, 2017): Mentor on Undergraduate student program.

Teaching histology of mouse brain (perfusion, brain section, staining).

A.J. (UC Berkeley, 2015): Mentor on Undergraduate student program.

Teaching mouse behavioral training.

A.L. (UC Berkeley, 2014): Mentor on Undergraduate student program.

Teaching animal behavioral training, and behavioral data collection and analysis.

## INVITED PRESENTATIONS

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, *WP-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 Biomedical 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.

Cognitive flexibility in the primate brain, *Seminar*, Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, June 2010.

Cortical mechanisms for cognitive flexibility in primates, *Seminar*, McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, MA, June 2010.

## PROFESSIONAL SOCIETIES

2007-	Society for Neuroscience	Member
2008-	Japan Neuroscience Society	Member

## PUBLICATION LISTS

### ORIGINAL ARTICLES

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

\* Highlighted by:

Bray N. Keeping short-term memories alive. *Nature Reviews Neuroscience*, 18, 324 (2017).

Dzirasa K. Working memory: The real VIP. *Science Translational Medicine*, 9, eaan3779 (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).

### REVIEW ARTICLES

**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).

### BOOK CHAPTER

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

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

## CONFERENCE PRESENTATIONS

- Kamigaki T.**, and Dan Y. Pathway-specific delay activity in the prefrontal cortex during memory-guided behavior. *Annual Meeting of the Japan Neuroscience Society*, 1P-296, Kobe, Japan, July 2018.
- Kamigaki T.**, and Dan Y. Specific roles of GABAergic interneuron subtypes in the prefrontal cortex for memory-guided behavior. *Annual Meeting of the Japan Neuroscience Society*, 3P-265, Chiba, Japan, July 2017.
- Kamigaki T.**, and Dan Y. Functional characterization of specific interneuron subtypes in the prefrontal cortex for memory-guided behavior. *Society for Neuroscience*, 805.17, San Diego, USA, November 2016.
- Kamigaki T.**, and Dan Y. Functional Roles of Specific Interneuron Subtypes in the Prefrontal Cortex for Memory-guided Behavior. *HHMI Scientific Meeting*, Ashburn, USA, September, 2016.
- Perwez, N., **Kamigaki T.**, and Dan Y. Causal Role of the Prefrontal Cortex in the Top-Down Modulation of Sensory Processing and Working Memory. *Cognitive Neuroscience Society*, San Francisco, USA, March, 2015.
- Zhang S., Xu M., **Kamigaki T.**, Jenvayand S., and Dan Y. Long-Range and Local Circuits for Top-Down Modulation of Visual Cortical Processing. *COSYNE 14*, Salt Lake City, USA, March 2014.
- Perwez, N., **Kamigaki T.**, and Dan Y. Role of Prefrontal cortex in top-down modulation of sensory processing and working memory. *Biology Scholars Program Undergraduate Research Symposium*, Berkeley, USA, August, 2014.
- Perwez, N., **Kamigaki T.**, and Dan Y. Prefrontal cortex in top-down regulation of visual processing and working memory. *Initiative to Maximizing Student Development Research Symposium*, Berkeley, USA, May, 2014.
- Kamigaki T.**, Tamura K., and Miyashita Y. Brain-wide networks and local neurocircuitries for higher cognitive function in human and nonhuman primates. *Global COE 4th Retreat International Symposium*, Tokyo, Japan, March 2011.
- Kamigaki T.**, Fukushima T., and Miyashita Y. Neuronal signals reflecting preparatory and executive processes for behavioral shifting in macaque posterior parietal cortex. *Society for Neuroscience*, 805.17, San Diego, USA, November 2010.
- Kamigaki T.**, and Miyashita Y. Cognitive set-shifting mechanisms in the macaque parietal cortex. *Annual Meeting of the Japan Neuroscience Society*, S1-2-1-3, Kobe, Japan, September 2010.
- Kamigaki T.**, Fukushima T., and Miyashita Y. Execution and preparatory signals for cognitive set shifting in monkey posterior parietal cortex. *Global COE 3rd Retreat International Symposium*, B-2, Tokyo, Japan, March 2010.
- Kamigaki T.**, Fukushima T., and Miyashita Y. Neuronal activity in the macaque posterior parietal cortex reflecting reconfiguration of cognitive set. *International Congress of Physiological Sciences*, P5AM-5-6, Kyoto, Japan, August 2009.
- Kamigaki T.**, Fukushima T., and Miyashita Y. Macaque parietal cortex neurons signaling cognitive set reconfiguration. *UCSF Neuroscience Symposium*, Asilomar, USA, September 2009.
- Kamigaki T.**, Fukushima T., and Miyashita Y. Neuronal modulation in the posterior parietal cortex of monkeys performing an analog of the Wisconsin Card Sorting Test. *Annual Meeting of the Japan Neuroscience Society*, O2-I02, Tokyo, Japan, July 2008.
- Kamigaki T.**, Fukushima T., and Miyashita Y. Neuronal activity in the macaque posterior parietal cortex during an analog of the Wisconsin Card Sorting Test. *Global COE 1st Retreat International Symposium*, Chiba, Japan, 2008.
- Kamigaki T.**, Fukushima T., and Miyashita Y. Characterization of neuronal activity in the macaque posterior parietal cortex during a cognitive set-shifting task. *Society for Neuroscience*, 558.10, San Diego, USA, November 2007.

**Kamigaki T.**, Fukushima T., and Miyashita Y. Parietal contribution to cognitive set shifting and representation. *COE Project “Multidisciplinary approach to the biological signaling mechanism”, 4th Symposium*, Hakone, Japan, March 2006.

Fukushima T., Kasahara H., **Kamigaki T.**, and Miyashita Y. Neuronal activity related to cognitive set shift in macaque ventral periarculate area. *COE Project “Multidisciplinary approach to the biological signaling mechanism”, 4th Symposium*, Hakone, Japan, March 2006.

**Kamigaki T.**, Kasahara H., Fukushima T., and Miyashita Y. Neuronal activity in the macaque frontal cortex during cognitive set shifting. *COE Project “Multidisciplinary approach to the biological signaling mechanism”, 3rd Symposium*, Shonan, Japan, March 2005.