

Curriculum Vitae
MASAKO TAMAKI, Ph.D.

CURRENT POSITION

RIKEN Hakubi Team Leader
Cognitive Somnology RIKEN Hakubi Research Team
RIKEN Cluster for Pioneering Research
RIKEN Center for Brain Science
Office address : 2-1, Hirosawa, Wako, Saitama 351-0198, Japan
Email : masako.tamaki@riken.jp

EDUCATION

2007, Ph.D., Psychology, Hiroshima University, Hiroshima, Japan. Advisor: Prof. Tadao Hori.
2004, M.Sc., Psychology, Hiroshima University, Hiroshima, Japan. Advisor: Prof. Tadao Hori.
2002, B.A., Psychology, Waseda University, Tokyo, Japan: Advisor: Prof. Yasutomo Ishii.

ACADEMIC APPOINTMENTS

2021-present, RIKEN Hakubi Team Leader, RIKEN Cluster for Pioneering Research, RIKEN Center for Brain Science, Saitama, Japan

2019-present, Visiting Researcher, National Institute of Mental Health, National Center of Neurology and Psychiatry in Tokyo, Japan

2020-2021, Researcher, National Institute of Occupational Safety & Health, Japan (JNIOSH)

2017-2020, Assistant Professor (Research), Department of Cognitive, Linguistic, and Psychological Sciences, Brown University, RI, USA

2012-2017, Postdoctoral Research Associate, Department of Cognitive, Linguistic, and Psychological Sciences, Brown University, RI, USA

2010-2012, Researcher, Advanced Telecommunications Research Institute International (ATR), Kyoto, Japan

2007-2009, Research Fellow, Atinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital / Harvard Medical School, MA, USA

2007-2010, Research Fellow, Graduate School of Sport Sciences, Waseda University, Saitama, Japan

2001-2002, Research Assistant, National Institute of Mental Health, National Center of Neurology and Psychiatry, Chiba, Japan

PUBLICATIONS

Tamaki M, Wang Z, Barnes-Diana T, Guo D, Berard AV, Walsh EG, Watanabe T, Sasaki Y. Complementary contributions of NREM and REM sleep to visual learning. *Nature Neuroscience*, 23(9), 1150-1156, 2020. DOI: 10.1038/s41593-020-0666-y.

***Elucidated the neurochemical mechanisms of visual perceptual learning during sleep by simultaneous polysomnography and magnetic resonance spectroscopy measurements**

Tamaki M[†], Berard AV[†], Barnes-Diana T, Siegel J, Watanabe T, Sasaki Y. Reward does not facilitate visual perceptual learning until sleep occurs. *Proceedings of the National Academy of Sciences of the United States of America*, 117(2), 959-968, 2020. PMID: 31892542.

[†]Co-first authorship

***Demonstrated that reward interacts with sleep to facilitate visual perceptual learning**

Tamaki M, Wang Z, Watanabe T, Sasaki Y. Trained-feature-specific offline learning by sleep in an orientation detection task. *Journal of Vision*, 19(12), 1-14, 2019. PMID: 31622472.

Tamaki M, Sasaki Y. Surveillance during REM sleep for the first-night effect. *Frontiers in Neuroscience*. 13:1161, 2019. PMID: 31736695.

Sasaki Y, **Tamaki M**, Yamada T. Sleep and consciousness. *Neurology (Tokyo)*. 91(6), 1-8, 2019.

Shibata K, Sasaki Y, Bang JW, Walsh EG, Machizawa MG, **Tamaki M**, Chang Li-Hung, Watanabe T. Overlearning hyperstabilizes a skill by rapidly making neurochemical processing inhibitory-dominant. *Nature Neuroscience*, 20(3), 470-475, 2017. PMID: 28135242.

Tamaki M, Bang JW, Watanabe T, Sasaki Y. Night watch in one brain hemisphere during sleep associated with the first-night effect in humans. *Current Biology*, 26(9), 1190-1194, 2016. PMID: 27112296.

***Top 4 in the Altmetric Attention Score of all papers in biological science published in 2016**

Tamaki M, Bang JW, Watanabe T, Sasaki Y. The first-night effect suppresses the strength of slow-wave activity originating in the visual areas during sleep. *Vision Research*, 99, 154-161, 2014.

PMID: 24211789.

Tamaki M, Huang TR, Yotsumoto Y, Hämäläinen M, Lin FH, Náñez JE Sr, Watanabe T, Sasaki Y. Enhanced spontaneous oscillations in the supplementary motor area are associated with sleep-dependent offline learning of finger-tapping motor-sequence task. *Journal of Neuroscience*, 33(34), 13894-13902, 2013. PMID: 23966709.

Horikawa T, **Tamaki M**, Miyawaki Y, Kamitani Y. Neural decoding of visual imagery during sleep. *Science*, 340(6132), 639-642, 2013. PMID: 23558170.

***Succeeded in reading out dream contents for the first time using fMRI decoding technique**

Tamaki M, Kamitani Y. Decoding subjective mental states from FMRI activity patterns. *Brain and Nerve*, 63(12), 1331–1338, 2011. PMID: 22147452.

Kishi A, Yasuda H, Matsumoto T, Inami Y, Horiguchi J, **Tamaki M**, Struzik ZR, Yamamoto Y. Non-REM sleep stage transitions control ultradian REM sleep rhythm. *Sleep*, 34(10), 1423-1432, 2011. PMID: 21966074.

Tamaki M, Komada Y, Shirakawa S. Mental workload delays the sleep-onset period in people with sleep-initiation difficulty. *Japanese Journal of Clinical Neurophysiology*, 38(6), 392-398, 2010.

Tamaki M, Matsuoka T, Nittono H, Hori T. Activation of fast sleep spindle at the premotor cortex and parietal areas contribute to motor learning: A study using sLORETA. *Clinical Neurophysiology*, 120(5), 878-886, 2009. PMID: 19376746.

Tamaki M, Matsuoka T, Nittono H, Hori T. Fast sleep spindle (13–15 Hz) activity correlates with sleep-dependent improvement in visuomotor performance. *Sleep*, 31(2), 204-211, 2008. PMID: 18274267.

Okamoto-Mizuno K, Yamashiro Y, Tanaka T, Komada Y, Mizuno K, **Tamaki M**, Kitado M, Inoue Y, Shirakawa S. Heart rate variability and body temperature during the sleep onset period. *Sleep and Biological Rhythms*, 6(1), 42-49, 2008.

Tamaki M, Hori T. Significance of human sleep. *Cell Technology*, 27(6), 442-447, 2008.

Tamaki M, Nittono H, Hori T. Efficacy of overnight sleep for a newly acquired visuomotor skill. *Sleep and Biological Rhythms*, 5(2), 110-115, 2007.

Tamaki M. Human performance and sleep. *Cognition & Dementia*, 6(2), 108-113, 2007.

Tanaka H, **Tamaki M**. Sleep, memory and quality of life. *Kango kenkyu*, 40(7), 641-648, 2007.

Tamaki M, Nittono H, Hayashi M, Hori T. Examination of the first-night effect during the sleep-onset period. *Sleep*, 28(2), 195-202, 2005. PMID: 16171243.

Tamaki M, Nittono H, Hori T. The first-night effect occurs at the sleep-onset period regardless of the temporal anxiety level in healthy students. *Sleep and Biological Rhythms*, 3(2), 92-94, 2005.

Tamaki M, Nittono H, Hayashi M, Hori T. Spectral analysis of the first-night effect on the sleep-onset period. *Sleep and Biological Rhythms*, 3(3), 122-129, 2005.

PREPRINTS / MANUSCRIPTS IN PREPARATION

Tamaki M, Sasaki Y. Sleep-dependent offline performance gain in visual perceptual learning is consistent with a learning-dependent model. bioRxiv. DOI: <https://doi.org/10.1101/2020.08.16.253260>

Wang Z, **Tamaki M**, Shibata S, Worden M, Yamada T, Kawato M, Sasaki Y, Watanabe T. Visual perceptual learning of a primitive feature in human V1/V2 as a result of unconscious processing, revealed by Decoded fMRI Neurofeedback (DecNef). bioRxiv, DOI: 10.1101/2020.11.30.405209

Tamaki M, Barnes-Diana T, Wang Z, Watanabe T, Sasaki Y. The first-night effect impairs consolidation of visual perceptual learning. In preparation.

Tamaki M. The role of NREM and REM sleep in visual perceptual learning. In preparation.

Tamaki M, Kubo T, Kawakami S, Nishimura Y, Takahashi M, Sasaki T. Impaired offline performance gains by sleep in older adults. In preparation.

BOOK CHAPTERS AND COMMENTARIES

Tamaki M. Functional and neurochemical roles of NREM and REM sleep in visual perceptual learning. *Newsletter for Japanese Society for Physiological Psychology and Psychophysiology*. In press.

Tamaki M, Sasaki Y. Sleep homeostasis and regional sleep in humans. In: *The Japanese Society of Sleep Research (Ed.), Somnology (2nd ed.)*. 238-241. Tokyo: Asakura-shoten, 2020.

Tamaki M, Sasaki Y. How half our brain keeps watch when we sleep in unfamiliar places. *The Conversation*, 2016.

Tamaki M. Neural decoding of visual dream contents during sleep-onset period. *Brain Products Press Release (User Research)*, 47, 5-7, 2013.

Tamaki M, Hori T. Electroencephalography. In: *The Japanese Association of Stress Science and Public health research center (Eds.), Dictionary of stress science*. 812. Tokyo: Jitsumukyoiku-Shuppan, 2011.

Tamaki M, Hori T. First night effect. In: The Japanese Association of Stress Science and Public health research center (Eds.), *Dictionary of stress science*. 668. Tokyo: Jitsumukyoiku-Shuppan, 2011.

Tamaki M, Hori T. Performance under stress. In: The Japanese Association of Stress Science and Public health research center (Eds.), *Dictionary of stress science*. 566. Tokyo: Jitsumukyoiku-Shuppan, 2011.

Tamaki M, Hori T. Parasomnia. In: The Japanese Association of Stress Science and Public health research center (Eds.), *Dictionary of stress science*. 348. Tokyo: Jitsumukyoiku-Shuppan, 2011.

Tamaki M. Sleep and Memory. In: T. Hori (Ed.), *Sleep psychology*. 170-181. Kyoto: Kitaoji-Shobo, 2008.

Tamaki M. Stress and Insomnia. In: T. Hori (Ed.), *Sleep psychology*. 182-194. Kyoto: Kitaoji-Shobo, 2008.

HONORS AND AWARDS

Best Paper Award for “Neural decoding of visual imagery during sleep. *Science*, 2013”, Japanese Neural Network Society, Fukuoka, Japan, 2014

Research Fellowship of the Japan Society for the Promotion of Science for Young Scientists (PD), Tokyo, Japan, 2008-2010
¥ 8,736,000 JPY

Best Paper Award in basic sleep research for “Fast Sleep Spindle (13-15 Hz) Activity Correlates with Sleep-Dependent Improvement in Visuomotor Performance,” 13th Encouraging Prize of Japanese Society of Sleep Research, Japanese Society of Sleep Research, 2008

Research Fellowship of the Japan Society for the Promotion of Science for Young Scientists (DC2, PD), Tokyo, Japan, 2006-2008

¥ 6,768,000 JPY

Excellent Student Scholarship, Hiroshima University, 2006

¥ 267,900 JPY

Best Paper Award in *Sleep and Biological Rhythms* for “Spectral analysis of the first-night effect on the sleep-onset period,” 11th Encouraging Prize of Japanese Society of Sleep Research, Japanese Society of Sleep Research, 2006

Travel Grant, European Sleep Research Society, 2006

€ 500

RESEARCH GRANTS

Grant-in-Aid for Research Activity Start-up, Grants-in-aid for Scientific Research

KAKENHI 20K22297

Masako Tamaki, PI

Development of real-time auditory feedback for facilitation of brain oscillations during sleep in older adults

2020-2021

¥ 2,860,000 JPY (Direct: ¥ 2,200,000)

Kibanteki Kenkyu, JNIOASH N-F02-05

Masako Tamaki, PI

The roles of sleep in facilitation and stabilization of skill learning in older workers

2020

¥ 2,775,000 JPY

NIH NIGMS IDeA COBRE Pilot Project P20GM103645

Masako Tamaki, PI

Roles of sleep in visual perceptual learning examined by decoded fMRI neurofeedback

4/2/18–4/1/19

\$ 40,000 (Direct: \$ 40,000)

Grant-in-Aid for Research Activity Start-up, Grants-in-aid for Scientific Research

KAKENHI 22830136

Masako Tamaki, PI

Development and verification of acquisition and pattern analysis of brain activity during sleep

8/25/10–3/31/12

¥ 2,951,000 JPY

Grant-in-Aid from Japan Society for the Promotion of Science (JSPS) Fellows, Grants-in-aid for Scientific Research KAKENHI 08J00982

Masako Tamaki, PI

Mechanisms of sleep-dependent procedural memory consolidation

4/1/08–3/31/10

¥ 1,400,000 JPY

Grant-in-Aid from Japan Society for the Promotion of Science (JSPS) Fellows, Grants-in-aid for Scientific Research KAKENHI 06J08283

Masako Tamaki, PI

Mechanisms of sleep-dependent consolidation

4/27/06–3/31/08

¥ 1,900,000 JPY

INVITED TALKS

“Opponent neurochemical and functional processing during sleep for visual perceptual learning,” RIKEN CBS seminar, Saitama, Japan, 2/1/2021. (Seminar)

“Opponent neurochemical and functional processing in NREM and REM sleep in visual perceptual learning,” International Institute for Integrative Sleep Medicine (IIIS), Tsukuba, Japan, 9/13/2019. (Seminar)

“Opponent neurochemical and functional processing in NREM and REM sleep in visual perceptual learning,” Medical Institute of Developmental Disabilities Research, Showa University, Tokyo, Japan, 9/12/2019. (Seminar)

“Opponent neurochemical and functional processing in NREM and REM sleep in visual perceptual learning,” National Institute of Mental Health, NCNP, Tokyo, Japan, 9/11/2019. (Seminar)

“Interhemispheric asymmetry in sleep depth, arousal and behavioral response associated with the first-night effect,” Sleep and Circadian Neurobiology DataBlitz, Neuroscience 2016, San Diego, CA., 11/14/2016. (Seminar)

“Spontaneous brain oscillations during sleep associated with offline learning of a motor sequence task,” Vaina seminar, Boston University, Boston, MA., 9/30/2015. (Lecture)

“Alteration in spontaneous oscillatory activities during sleep associated with environmental adaptation and learning,” Biomag 2014, Halifax, 8/26/2014. (Symposium)

“Brain activities during non-rapid eye movement sleep and motor-skill learning,” The 37th Annual Meeting of Japanese Society of Sleep Research, Yokohama, 06/29/2012. (Symposium)

“Motor learning and brain activity in the motor related cortical areas during non-rapid eye movement sleep,” The 37th Annual Meeting of Japanese Society of Sleep Research, Yokohama, 06/28/2012. (Symposium)

“EEG activities associated with motor learning during sleep,” The 50th Annual Conference of Japanese Society for Medical and Biological Engineering. Tokyo, 04/30/2011. (Symposium)

“Stability and instability of sleep in association with motor learning,” 37th Japanese Society of Sports Psychology. Fukuyama, 11/20/2010. (Symposium)

“Motor skill learning and sleep spindles,” Advanced Materials Laboratories SONY Corporation at Tokyo Medical and Dental University. Tokyo, 08/19/2010. (Seminar)

“Memory consolidation and EEG activity during sleep,” Sleep and brain plasticity symposium. The 34th Annual Meeting of Japanese Society of Sleep Research. Nagoya, 7/1/2010. (Symposium)

“Sleep spindle activities and sleep dependent improvement of procedural memory consolidation,” Effects of sleep on memory and cognition symposium, Asian Sleep Research Society, Japanese Society of Sleep Research, and Japanese Society for Chronobiology Joint Congress 2009. Osaka, 10/25/2009. (Symposium)

“The function of sleep associated with mental activities during wakefulness,” Advanced Telecommunications Research Institute International (ATR). Computational Neuroscience Laboratories. Kyoto, 1/22/2009. (Seminar)

“Role of sleep in motor learning,” Motor learning and control symposium: Implicit and explicit control of perceptual and motor behavior. 3rd Asia Pacific Congress of Exercise and Sports Science (APCESS). Hiroshima, 12/8/2007. (Symposium)

“Sleep spindle and procedural memory,” Joint Congress of the 32nd Annual Meeting of Japanese Society of Sleep Research, the 14th Annual Meeting of Japanese Society for Chronobiology, Tokyo, 11/7/2007. (Symposium)

“Stress and Insomnia,” Sleep research in psychology (15) Stress and Insomnia. The 70th Annual Convention of Japanese Psychological Association. Fukuoka, 11/5/2006. (Workshop)

DEPARTMENTAL TALKS

“Contribution of REM sleep to visual perceptual learning,” Junior Researcher Meeting, National Institute of Occupational Safety and Health, Kawasaki, Japan, 7/31/2020.

“The role of sleep,” Technical Meeting, National Institute of Occupational Safety and Health, Kawasaki, Japan, 6/19/2020.

“Roles of sleep in visual perceptual learning examined by decoded fMRI neurofeedback,” COBRE meeting, Brown University, Providence, RI., 4/24/2018.

“Enhancement and stabilization of visual perceptual learning during sleep are subserved by different mechanisms,” Bradley Sleep Research Lab, E.P. Bradley Hospital, Brown University, Providence, RI., 2/13/2018.

“Neural processing during sleep associated with the first-night effect,” Magnetic Resonance Imaging Research Facility Users Meeting, Brown University, Providence, RI., 12/11/2017.

“Enhancement and stabilization of visual perceptual learning during sleep are subserved by different mechanisms,” the CLPS Perception and Action seminar, Brown University, Providence, RI., 10/26/2017.

“Spontaneous EEG activity during sleep-onset period associated with dream report,” the ACN seminar, Advanced Telecommunications Research Institute International (ATR). Computational Neuroscience Laboratories. Kyoto, 9/30/2010.

“Facilitatory action of sleep on visuomotor skill,” Physiological Psychology and Psychophysiology seminar, Waseda University. Saitama, 8/7/2009.

SERVICE

Ad-hoc journal reviews

Scientific Reports, Journal of Neurophysiology, Journal Sleep, Journal of Sleep Research, Clinical Neurophysiology, Attention, Perception, & Psychophysics, Sleep and Biological Rhythms, Chronobiology International, Neuroscientist

Ad-hoc grant review

The Fund for Scientific Research – FNRS (F.R.S – FNRS) – Belgium (2019)

Editorial service

Reviewing Editor, *SLEEP Advances* (2020 – present)

Reviewing Editor, *Sleep and Circadian Rhythms, Frontiers in Neuroscience* (2021 – present)

Professional associations

Councilor, The Japanese Society of Sleep Research

Member, The Society for Neuroscience

Member, The Sleep Research Society

SELECTED MEDIA COVERAGE

<https://www.cnn.com/2016/04/21/health/poor-sleep-while-traveling/index.html>

<http://time.com/4303394/sleep-disorders/>

<https://www.cbsnews.com/news/why-you-feel-groggy-when-you-sleep-away-from-home/>

<https://www.bbc.com/news/health-36105516>

TEACHING EXPERIENCE

Undergraduate and Graduate Mentoring, Brown University, RI

DeeAnn Guo (2019-2020)

Tyler Barnes-Diana (2018-2019)

Zhiyan Wang (2016-2019)

Aaron Berard (2012-2016)

Vivienne Bang (2014)

Stephanie Mayne-Flood (2013-2014)

Jared Burgess (2013-2014)

Guest Lecturer, Brown University, RI

Spring 2020, “Perceptual learning”, Department of Cognitive, Linguistic, and Psychological Sciences (Seminar)

Fall 2019, “Science of Consciousness”, Department of Cognitive, Linguistic, and Psychological Sciences (Lecture)

Spring 2019, “Perceptual learning”, Department of Cognitive, Linguistic, and Psychological Sciences (Seminar)

Spring 2019, “Perception, Attention, and Consciousness”, Department of Cognitive, Linguistic, and Psychological Sciences (Seminar)

Fall 2018, “Science of Consciousness”, Department of Cognitive, Linguistic, and Psychological

Sciences (Lecture)

Spring 2018, “Perceptual learning”, Department of Cognitive, Linguistic, and Psychological Sciences (Seminar)

Spring 2018, “Perception, Attention, and Consciousness”, Department of Cognitive, Linguistic, and Psychological Sciences (Seminar)

Fall 2017, “Science of Consciousness”, Department of Cognitive, Linguistic, and Psychological Sciences 2017 (Lecture)

Spring 2017, “Night watch in one brain hemisphere during sleep associated with the first-night effect in humans. Current Biology, 2016”, Science-writing biology class (Seminar)

Spring 2016, “Visual Consciousness”, Department of Cognitive, Linguistic, and Psychological Sciences (Lecture)

Fall 2015, “Perceptual Learning”, Department of Cognitive, Linguistic, and Psychological Sciences (Seminar)

Lecturer (part-time), Bunkyo University, Saitama, Japan

2009-2010, “Experimental Psychology”, Syllabus preparation, lecture and experiments, test construction, grade assessment (Experiment and Lecture)

Lecturer (part-time), Kure National College of Technology, Hiroshima, Japan

2006-2007, “Introduction to Psychology”, Syllabus preparation, lecture, test construction, grade assessment (Lecture)

Lecturer (part-time), Higashi-Hiroshima Medical Center and Chugoku Cancer Center, Hiroshima, Japan

Spring 2005, “Introduction to Psychology”, Syllabus preparation, lecture, test construction, grade assessment (Lecture)

Lecturer (part-time), Kure Medical Center and Chugoku Cancer Center, Hiroshima, Japan

Spring 2005, “Social Psychology”, Syllabus preparation, lecture, test construction, grade assessment (Lecture)

Teaching Assistant, Hiroshima University, Hiroshima, Japan

2003-2006, “Experimental psychology” (Seminar)

CONFERENCE PRESENTATIONS

Tamaki M, Wang Z, Barnes-Diana T, Guo D, Walsh E, Watanabe T, Sasaki Y. Different but complementary roles of NREM and REM sleep in facilitation of visual perceptual learning

associated with neurotransmitters changes revealed by magnetic resonance spectroscopy. 25th Congress of the European Sleep Research Society (virtual meeting), 9/22/2020. Poster presentation.

Kubo T, Izawa S, Ikeda H, Matsumoto S, Nishimura Y, **Tamaki M**, Takahashi M, Sasaki T, Okumura M, Hashimoto M. Three-week observational study of intervals between shifts and fatigue among shift-working nurses: comparison of 12-hour and 16-hour shift schedules in a 2-shift system. 25th Congress of the European Sleep Research Society (virtual meeting), 9/22/2020. Poster presentation.

Yamada T, **Tamaki M**, Wang Z, Watanabe T, Sasaki Y. Interactions of reward and sleep can be harmful to presleep visual perceptual learning by rendering the learning more vulnerable to interference or catastrophic forgetting. V-VSS 2020. 6/20/2020. Poster presentation.

Tamaki M, Wang Z, Barnes-Diana T, Yamada T, Walsh E, Watanabe T, Sasaki Y. Different but complementary roles of NREM and REM sleep in facilitation of visual perceptual learning associated with neurotransmitters changes revealed by magnetic resonance spectroscopy. VSS 2019, Tampa, FL., 5/18/2019. Poster presentation.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. REM sleep has two distinct roles in learning: Stabilization of pre-sleep learning and promotion of new post-sleep learning. Neuroscience 2018, San Diego, CA., 11/4/2018. Nanosymposium.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. REM sleep facilitates post-sleep visual perceptual learning (VPL) by eliminating anterograde interference from pre-sleep VPL. The National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington D.C., 6/26/2018. Oral presentation.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. REM sleep facilitates post-sleep visual perceptual learning (VPL) by eliminating anterograde interference from pre-sleep VPL. The National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington D.C., 6/25/2018. Poster presentation.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. REM sleep, but not wakefulness, promotes new post-sleep learning. Rhode Island NIH IDeA Symposium, Providence, RI., 6/8/2018. Poster presentation.

Wang Z, **Tamaki M**, Shibata K, Worden M, Sasaki Y, Watanabe T. Feature-based plasticity revealed by decoded fMRI neural feedback (DecNef). VSS 2018, Tampa, FL., 5/21/2018. Poster presentation.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. REM sleep facilitates post-sleep visual perceptual learning (VPL) by eliminating anterograde interference from pre-sleep VPL. VSS 2018, Tampa, FL., 5/19/2018. Poster presentation.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. Enhancement and stabilization of visual perceptual learning during sleep are subserved by different mechanisms. Neuroscience 2017, Washington D.C., 11/12/2017. Nanosymposium.

Tamaki M, Watanabe T, Sasaki Y. REM sleep stabilizes visual perceptual learning which was rendered fragile by NREM sleep. Sleep 2017, Boston, MA., 6/6/2017. Poster presentation.

Sasaki Y, **Tamaki M**, Watanabe T. REM sleep stabilizes visual perceptual learning which was rendered fragile by NREM sleep. VSS 2017, Tampa, FL., 5/20/2017. Poster presentation.

Tamaki M, Bang JW, Watanabe T, Sasaki Y. Interhemispheric asymmetry in sleep depth, arousal and behavioral response associated with the first-night effect. Neuroscience 2016, San Diego, CA., 11/14/2016. Poster presentation.

Tamaki M, Watanabe T, Sasaki Y. Hemispheric asymmetry in responsiveness from slow-wave sleep in association with the first-night effect in human. Sleep 2016, Denver, CO., 6/14/2016. Poster presentation.

Berard AV, **Tamaki M**, Barnes-Diana T, Nañez J, Watanabe T, Sasaki Y. Reward reactivates and facilitates visual perceptual learning during REM sleep. VSS 2016, Tampa, FL., 5/14/2016. Oral presentation.

Tamaki M, Bang JW, Watanabe T, Sasaki Y. Hemispheric asymmetry in vigilance and arousal during slow-wave sleep in association with the first-night effect in human. Sleep 2015, Seattle, WA., 6/10/2015. Poster presentation.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. Sigma activity originated in the early visual cortex during sleep associated with visual perceptual learning. VSS 2015, Tampa, FL., 5/19/2015. Poster presentation.

Tamaki M, Berard AV, Watanabe T, Sasaki Y. Enhanced sigma activity in early visual area during sleep associated with visual perceptual learning. Sleep 2014, Minneapolis, MN., 6/2/2014. Poster presentation.

Tamaki M, Bang JW, Watanabe T, Sasaki Y. Altered slow-wave activity in the default mode network during sleep associated with the first-night effect. Neuroscience 2013, San Diego, CA., 11/11/2013. Nanosymposium.

Tamaki M, Bang JW, Watanabe T, Sasaki Y. Altered slow-wave activity in the default mode network during non-rapid eye movement sleep associated with the first-night effect in combination of MEG and MRI. Sleep 2013, Baltimore, MD., 6/3/2013. Poster presentation.

Tamaki M, Bang JW, Watanabe T, Sasaki Y. Modification of spontaneous oscillatory activity in the visual cortex during non-rapid eye movement sleep associated with adaptation process to a first-night sleep environment. Journal of Vision 13 (9), 558, 2013. Poster presentation.

Bang JW, Khalilzadeh O, Wakeman D, **Tamaki M**, Hämäläinen M, Watanabe T, Sasaki Y. MEG slow activity in V1 during sleep and perceptual learning. Journal of Vision 12 (9), 1125, 2012. Poster presentation.

Tamaki M, Watanabe T, Sasaki Y. MEG oscillatory activity during sleep correlated with improvement of a motor sequence learning. Fibbs 2012, Tokyo, 03/19/2012. Poster presentation.

Khalilzadeh O, Bang JW, Wakeman DG, **Tamaki M**, Hämäläinen M, Watanabe T, Sasaki Y. Slow-wave MEG activity in primary visual cortical area during sleep after visual perceptual learning: the role of sleep in visual perceptual learning. Sleep 35, A92-A93, 2012. Poster presentation.

Tamaki M, Huang TR, Lin FH, Hamalainen M, Yotsumoto Y, Watanabe T, Sasaki Y. MEG cortical activity during NREM sleep correlated with improvement of a motor sequence learning. Worldsleap 2011, Kyoto, 10/20/2011. Symposium.

Tamaki M, Huang TR, Lin FH, Hamalainen M, Watanabe T, Sasaki Y. Spontaneous MEG activity during sleep correlated with improvement of a motor sequence learning in motor related cortical areas. Neuroscience 2010, San Diego, 11/14/2010. Symposium.

Kishi A, Yasuda H, Matsumoto T, Inami Y, Horiguchi J, **Tamaki M**, Struzik ZR, Yamamoto Y: Non-REM sleep stage transitions control ultradian REM sleep rhythm. Worldsleap 2011, [PO-2-066; Sleep and Biological Rhythms, 9 (4), 364] Kyoto, 10/19/2011. Poster presentation.

Tamaki M, Huang TR, Lin FH, Hamalainen M, Yotsumoto Y, Watanabe T, Sasaki Y. MEG cortical activation during sleep correlated with improvement of a motor sequence learning. Neuro 2010. Kobe, 9/2/2010. Poster presentation.

Sasaki Y, **Tamaki M**, Huang TR, Lin FH, Hamalainen M, Watanabe T. Slow wave activity in motor areas during sleep after a motor sequence learning using a combination of MEG and MRI technique. 24th Annual Meeting of the Associated Professional Sleep Societies, LLC (Sleep 2010). San Antonio, Texas, 6/7/2010. Poster presentation.

Tamaki M, Matsuda S, Yamazaki K, Hori T. Spectral analysis of EEG activity associated with

declarative memory consolidation. The 6th Congress of Asian Sleep Research Society, The 34th Annual Meeting of Japanese Society of Sleep Research, and The 16th Annual Meeting of Japanese Society for Chronobiology Joint Congress 2009. Osaka, 10/2009. Poster presentation.

Tamaki M, Matsuda S, Yamazaki K, Hori T. Examination of the power of sleep on declarative memory consolidation using word-pair association task. The 27th Meeting of Japanese Society for Physiological Psychology and Psychophysiology. Kyoto, 5/2009. Poster presentation.

Tamaki M, Huang TR, Mori N, Lin FH, Hämäläinen M, Yamazaki K, Shimojo S, Watanabe T, Sasaki Y. MRI-constrained spectral analysis of MEG oscillatory activity associated with consolidation of a motor skill learning. The 38th annual meeting of the Society for Neuroscience. Washington DC, 11/2008. Oral presentation.

Tamaki M, Matsuoka T, Nittono H, Sasaki Y, Hori T. Enhancement of activity of fast-sleep spindle due to perceptual-motor learning. Joint Congress of the 32nd Annual Meeting of Japanese Society of Sleep Research, the 14th Annual Meeting of Japanese Society for Chronobiology, Tokyo, 11/2007. Poster presentation.

Tamaki M, Matsuoka T, Nittono H, Hori T. Reconsolidation-related enhancement of fast spindle activity after learning a visuomotor skill. 5th World Sleep Congress of the WFSRSMS (Worldsleep07). Cairns, 9/2007. Poster presentation.

Tamaki M, Matsuoka T, Nittono H, Hori T. Sleep-spindle activity after visuo-motor learning. 18th Congress of the European Sleep Research Society, Innsbruck, 9/2006. Poster presentation.

Tamaki M, Nittono H, Hori T. Relation between activity of sleep spindle and reconsolidation of procedural memory during sleep. The 31st Annual meeting of Japanese Society of Sleep Research, Shiga, 6/2006. Poster presentation.

Tamaki M, Nittono H, Hori T. Efficacy of sleep for procedural-memory consolidation. The 69th Annual Convention of Japanese Psychological Association, Tokyo, 9/2005. Poster presentation.

Tamaki M, Nittono H, Hori T. Skill for tracing rotated image improves after a night of sleep. The 30th Annual meeting of Japanese Society of Sleep Research, Tochigi, 7/2005. Poster presentation.

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