

List of Publications in 2021

WPI papers

(1) Original Articles

1. Suzuki Y, Kawana F, Satoh M, Abe T (2021) The abrupt shift to slower frequencies after arousal from sleep in healthy young adults. *Journal of Clinical Sleep Medicine* **17**(12): 2373-2381. doi:10.5664/jcsm.9434
2. Koyanagi I, Sonomura K, Naoi T, Ohnishi T, Kaneko N, Sawamoto K, Sato TA, Sakaguchi M (2021) Metabolic fingerprints of fear memory consolidation during sleep. *Molecular Brain* **14**(1). doi:10.1186/s13041-021-00733-6
3. Iwasaki K, Fujiyama T, Nakata S, Park M, Miyoshi C, Hotta-Hirashima N, Ikkyu A, Kakizaki M, Sugiyama F, Mizuno S, Abe M, Sakimura K, Takahashi S, Funato H, Yanagisawa M (2021) Induction of mutant *Sik3*(Sleepy) allele in neurons in late infancy increases sleep need. *Journal of Neuroscience* **41**(12): 2733-2746. doi:10.1523/JNEUROSCI.1004-20.2020
4. Choi J, Kim SJ, Fujiyama T, Miyoshi C, Park M, Suzuki-Abe H, Yanagisawa M, Funato H (2021) The role of reproductive hormones in sex differences in sleep homeostasis and arousal response in mice. *Frontiers in Neuroscience* **15**. doi:10.3389/fnins.2021.739236
5. Kashiwagi M, Kanuka M, Tanaka K, Fujita M, Nakai A, Tatsuzawa C, Kobayashi K, Ikeda K, Hayashi Y (2021) Impaired wakefulness and rapid eye movement sleep in dopamine-deficient mice. *Molecular Brain* **14**(1). doi:10.1186/s13041-021-00879-3
6. Gao TX, Li JY, Watanabe Y, Hung CJ, Yamanaka A, Horie K, Yanagisawa M, Ohsawa M, Kume K (2021) GI-SleepNet: A highly versatile image-based sleep classification using a deep learning algorithm. *Clocks & Sleep* **3**(4): 581-597. doi:10.3390/clockssleep3040041
7. Zhang SM, Tanaka Y, Ishihara A, Uchizawa A, Park I, Iwayama K, Ogata H, Yajima K, Omi N, Satoh M, Yanagisawa M, Sagayama H, Tokuyama K (2021) Metabolic flexibility during sleep. *Scientific Reports* **11**(1). doi:10.1038/s41598-021-97301-8
8. Uchida S, Soya S, Saito YC, Hirano A, Koga K, Tsuda M, Abe M, Sakimura K, Sakurai T (2021) A discrete glycinergic neuronal population in the ventromedial medulla that induces muscle atonia during REM sleep and cataplexy in mice. *Journal of Neuroscience* **41**(7): 1582-1596. doi:10.1523/JNEUROSCI.0688-20.2020
9. Tezuka T, Kumar D, Singh S, Koyanagi I, Naoi T, Sakaguchi M (2021) Real-time, automatic, open-source sleep stage classification system using single EEG for mice. *Scientific Reports* **11**(1). doi:10.1038/s41598-021-90332-1
10. Liu CY, Tsai CJ, Yasugaki S, Nagata N, Morita M, Isotani A, Yanagisawa M, Hayashi Y (2021) Copine-7 is required for REM sleep regulation following cage change or water immersion and restraint stress in mice. *Neuroscience Research* 14-25. doi:10.1016/j.neures.2020.04.002
11. Park I, Diaz J, Matsumoto S, Iwayama K, Nabekura Y, Ogata H, Kayaba M, Aoyagi A, Yajima K, Satoh M, Tokuyama K, Vogt KE (2021) Exercise improves the quality of slow-wave sleep by increasing slow-wave stability. *Scientific reports* **11**(1). doi:10.1038/s41598-021-83817-6
12. Kaushik MK, Aritake K, Cherasse Y, Imanishi A, Kanbayashi T, Urade Y, Yanagisawa M (2021) Induction of narcolepsy-like symptoms by orexin receptor antagonists in mice. *Sleep* **44**(8). doi:10.1093/sleep/zsab043
13. Uchizawa A, Hibi M, Sagayama H, Zhang SM, Osumi H, Tanaka Y, Park I, Tokuyama K, Omi N (2021) Novel equations to estimate resting energy expenditure during sitting and sleeping. *Annals of*

Nutrition and Metabolism **77**(3): 159-167. doi:10.1159/000516174

14. Seol J, Park I, Kokudo C, Zhang SM, Suzuki C, Yajima K, Satoh M, Tokuyama K, Okura T (2021) Distinct effects of low-intensity physical activity in the evening on sleep quality in older women: A comparison of exercise and housework. *Experimental Gerontology* **143**. doi:10.1016/j.exger.2020.111165
15. Suzuki F, Morita E, Miyagi S, Tsujiguchi H, Hara A, Nguyen TTT, Shimizu Y, Hayashi K, Suzuki K, Kannon T, Tajima A, Matsumoto S, Ishihara A, Hori D, Doki S, Oi Y, Sasahara S, Satoh M, Matsuzaki I, Yanagisawa M, Ikaga T, Nakamura H (2021) Protein intake in inhabitants with regular exercise is associated with sleep quality: Results of the Shika study. *PLOS ONE* **16**(2). doi:10.1371/journal.pone.0247926
16. Seol J, Lee J, Nagata K, Fujii Y, Joho K, Tateoka K, Inoue T, Liu J, Okura T (2021) Combined effect of daily physical activity and social relationships on sleep disorder among older adults: cross-sectional and longitudinal study based on data from the Kasama study. *BMC Geriatrics* **21**(1). doi:10.1186/s12877-021-02589-w
17. Yang YF, Dong H, Shen Y, Li L, Lazarus M, Qu WM, Huang ZL (2021) Mesencephalic dopamine neurons are essential for modafinil-induced arousal. *British Journal of Pharmacology* **178**(24): 4808-4825. doi:10.1111/bph.15660
18. Tanida K, Shimada M, Khor SS, Toyoda H, Kato K, Kotorii N, Kotorii T, Ariyoshi Y, Kato T, Hiejima H, Ozone M, Uchimura N, Ikegami A, Kume K, Kanbayashi T, Imanishi A, Kamei Y, Hida A, Wada Y, Kuroda K, Miyamoto M, Hirata K, Takami M, Yamada N, Okawa M, Omata N, Kondo H, Kodama T, Inoue Y, Mishima K, Honda M, Tokunaga K, Miyagawa T (2022) Genome-wide association study of idiopathic hypersomnia in a Japanese population. *Sleep and Biological Rhythms* **20**(1): 137-148. doi:10.1007/s41105-021-00349-2
19. Kaneko Y, Inoue Y, Fujiki N, Han G, Nishino S, Shimizu T, Kanbayashi T, Kondo H (2021) The anticataplectic and REM suppression effect of milnacipran, an SNRI, on human and canine narcolepsy. *Sleep and Biological Rhythms* **19**(2): 137-143. doi:10.1007/s41105-020-00298-2
20. Ishihara A, Park I, Suzuki Y, Yajima K, Cui H, Yanagisawa M, Sano T, Kido J, Tokuyama K (2021) Metabolic responses to polychromatic LED and OLED light at night. *Scientific reports* **11**(1). doi:10.1038/s41598-021-91828-6
21. Saito R, Miyoshi C, Koebis M, Kushima I, Nakao K, Mori D, Ozaki N, Funato H, Yanagisawa M, Aiba A (2021) Two novel mouse models mimicking minor deletions in 22q11.2 deletion syndrome revealed the contribution of each deleted region to psychiatric disorders. *Molecular Brain* **14**(1). doi:10.1186/s13041-021-00778-7
22. Choi YJ, Nakamura Y, Akazawa N, Park I, Kwak HB, Tokuyama K, Maeda S (2022) Effects of nocturnal light exposure on circadian rhythm and energy metabolism in healthy adults: A randomized crossover trial. *Chronobiology International* **39**(4): 602-612. doi:10.1080/07420528.2021.2014517
23. Vergara P, Kumar D, Srinivasan S, Koyanagi I, Naoi T, Singh S, Sakaguchi M (2021) Remapping of adult-born neuron activity during fear memory consolidation in mice. *International Journal of Molecular Sciences* **22**(6). doi:10.3390/ijms22062874
24. Xu Q, Wang DR, Dong H, Chen L, Lu J, Lazarus M, Cherasse Y, Chen GH, Qu WM, Huang ZL (2021) Medial parabrachial nucleus is essential in controlling wakefulness in rats. *Frontiers in Neuroscience* **15**. doi:10.3389/fnins.2021.645877
25. Inagawa Y, Shimizu S, Takenoshita n, Tsugawa A, Hirose D, Kanbayashi T, Imanishi A, Sakurai H, Hanyu H, Kanetaka H, Hirao K (2021) Association between cerebrospinal fluid Orexin A level and severity of rapid eye movement sleep behaviour disorder in dementia with Lewy bodies. *Psychogeriatrics* **21**(1): 128-130. doi:10.1111/psyg.12618

26. Li YD, Luo YJ, Xu W, Ge J, Cherasse Y, Wang YQ, Lazarus M, Qu WM, Huang ZL (2021) Ventral pallidal GABAergic neurons control wakefulness associated with motivation through the ventral tegmental pathway. *Molecular Psychiatry* **26**(7): 2912-2928. doi:10.1038/s41380-020-00906-0
27. Miyanishi K, Sato A, Kihara N, Utsunomiya R, Tanaka J (2021) Synaptic elimination by microglia and disturbed higher brain functions. *Neurochemistry International* **142**. doi:10.1016/j.neuint.2020.104901
28. Yu JH, Naoi T, Sakaguchi M (2021) Fear generalization immediately after contextual fear memory consolidation in mice. *Biochemical and Biophysical Research Communications* 102-106. doi:10.1016/j.bbrc.2021.04.072
29. Tanaka Y, Ogata H, Park I, Ando A, Ishihara A, Kayaba M, Yajima K, Suzuki C, Araki A, Osumi H, Zhang SM, Seol J, Takahashi K, Nabekura Y, Satoh M, Tokuyama K (2021) Effect of a single bout of morning or afternoon exercise on glucose fluctuation in young healthy men. *Physiological Reports* **9**(7). doi:10.14814/phy2.14784
30. Liu C, Lee CY, Asher G, Cao LQ, Terakoshi Y, Cao P, Kobayakawa R, Kobayakawa K, Sakurai K, Liu QH (2021) Posterior subthalamic nucleus (PSTh) mediates innate fear-associated hypothermia in mice. *Nature Communications* **12**(1). doi:10.1038/s41467-021-22914-6
31. Takeshita Y, Teramura C, Kamoshita K, Takayama H, Nakagawa H, Enyama Y, Ishii KA, Tanaka T, Goto H, Nakano Y, Osada S, Tanaka Y, Tokuyama K, Takamura T (2022) Effects of eicosapentaenoic acid on serum levels of selenoprotein P and organ-specific insulin sensitivity in humans with dyslipidemia and type 2 diabetes. *Journal of Diabetes Investigation* **13**(3): 532-542. doi:10.1111/jdi.13699
32. Yamamoto T, Saitoh T, Einaga Y, Nishiyama S (2021) Anodic oxidation of phenols: A key step for the synthesis of natural products. *Chemical Record* **21**(9): 2254-2268. doi:10.1002/tcr.202100032
33. Noorani SK, Hojati V, Akbari E, Ehsani S, Sakurai T, Ardeshiri MR (2021) The role of interaction between orexin receptors and beta 2 adrenergic receptors in basolateral amygdala in dentate gyrus synaptic plasticity in male rats. *Brain Research Bulletin* 164-171. doi:10.1016/j.brainresbull.2021.09.020
34. Maejima T, Tsuno Y, Miyazaki S, Tsuneoka Y, Hasegawa E, Islam MT, Enoki R, Nakamura TJ, Mieda M (2021) GABA from vasopressin neurons regulates the time at which suprachiasmatic nucleus molecular clocks enable circadian behavior. *PNAS* **118**(6). doi:10.1073/pnas.2010168118
35. Yamada D, Takahashi J, Iio K, Nagase H, Saitoh A (2021) Modulation of glutamatergic synaptic transmission and neuronal excitability in the prelimbic medial prefrontal cortex via delta-opioid receptors in mice. *Biochemical and Biophysical Research Communications* 192-198. doi:10.1016/j.bbrc.2021.05.002
36. Bittar TP, Pelaez MC, Silva JCH, Quessy F, Lavigne AA, Morency D, Blanchette LJ, Arsenaault E, Cherasse Y, Seigneur J, Timofeev I, Sephton CF, Proulx CD, Labonte B (2021) Chronic stress induces sex-specific functional and morphological alterations in corticoaccumbal and corticostriatal pathways. *Biological Psychiatry* **90**(3): 194-205. doi:10.1016/j.biopsych.2021.02.014
37. Sakamoto K, Yamada D, Yamanaka N, Nishida M, Iio K, Nagase H, Saitoh A (2021) A selective delta opioid receptor agonist SNC80, but not KNT-127, induced tremor-like behaviors via hippocampal glutamatergic system in mice. *Brain Research* **1757**. doi:10.1016/j.brainres.2021.147297
38. Ambati A, Hillary R, Leu-Semenescu S, Ollila HM, Lin L, Doring EH, Farber N, Rico TJ, Faraco J, Leary E, Goldstein-Piekarski AN, Huang YS, Han F, Sivan Y, Lecendreux M, Dodet P, Honda M, Gadoth N, Nevsimalova S, Pizza F, Kanbayashi T, Peraita-Adrados R, Leschziner GD, Hasan R, Canellas F, Kume K, Daniilidou M, Bourgin P, Rye D, Vicario JL, Hogg B, Hong SC, Plazzi G, Mayer G, Landtblom AM,

- Dauvilliers Y, Arnulf I, Mignot EJM (2021) Kleine-Levin syndrome is associated with birth difficulties and genetic variants in the TRANK1 gene loci. *PNAS* **118**(12). doi:10.1073/pnas.2005753118
39. Matsuo T, Isosaka T, Hayashi Y, Tang LJ, Doi A, Yasuda A, Hayashi M, Lee CY, Cao LQ, Kutsuna N, Matsunaga S, Matsuda T, Yao I, Setou M, Kanagawa D, Higasa K, Ikawa M, Liu QH, Kobayakawa R, Kobayakawa K (2021) Thiazoline-related innate fear stimuli orchestrate hypothermia and anti-hypoxia via sensory TRPA1 activation. *Nature Communications* **12**(1). doi:10.1038/s41467-021-22205-0
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 41. Ohru S, Irukayama-Tomobe Y, Ishikawa Y, Yanagisawa M, Nagase H (2021) Design and synthesis of novel orexin antagonists via structural simplification of the morphinan skeleton. *Heterocycles* **103**(2): 929-951. doi:10.3987/COM-20-S(K)63
 42. Hino T, Kutsumura N, Saitoh T, Yamamoto N, Nagumo Y, Mogi Y, Watanabe Y, Nagase H (2021) Novel Baeyer-Villiger-type oxidation of 4,5-epoxymorphinan derivatives. *Tetrahedron Letters* **63**. doi:10.1016/j.tetlet.2020.152714
 43. Yu LY, Tseng TJ, Lin HC, Hsu CL, Lu TX, Tsai CJ, Lin YC, Chu I, Peng CT, Chen HJ, Tsai FC (2021) Synthetic dysmobility screen unveils an integrated STK40-YAP-MAPK system driving cell migration. *Science Advances* **7**(31). doi:10.1126/sciadv.abg2106
 44. Okamoto S, Takaki M, Hinotsu K, Kawai H, Sakamoto S, Okahisa Y, Takao S, Tsutsui K, Kanbayashi T, Tanaka K, Yamada N (2022) Impairment of early neuronal maturation in anti-NMDA-receptor encephalitis. *Psychopharmacology* **239**(2): 525-531. doi:10.1007/s00213-021-06036-x
 45. Nakagawa Y, Wang YN, Han S, Okuda K, Oishi A, Yagishita Y, Kumagai K, Ohno H, Osaki Y, Mizunoe Y, Araki M, Murayama Y, Iwasaki H, Konishi M, Itoh N, Matsuzaka T, Sone H, Yamada N, Shimano H (2021) Enterohepatic transcription factor CREB3L3 protects atherosclerosis via SREBP competitive inhibition. *Cellular and Molecular Gastroenterology and Hepatology* **11**(4): 949-971. doi:10.1016/j.jcmgh.2020.11.004
 46. Mizunoe Y, Kobayashi M, Saito H, Goto A, Migitaka R, Miura K, Okita N, Sudo Y, Tagawa R, Yoshida M, Umemori A, Nakagawa Y, Shimano H, Higami Y (2021) Prolonged caloric restriction ameliorates age-related atrophy in slow and fast muscle fibers of rat soleus muscle. *Experimental gerontology* **154**. doi:10.1016/j.exger.2021.111519
 47. Ryanto GRT, Ikeda K, Miyagawa K, Tu L, Guignabert C, Humbert M, Fujiyama T, Yanagisawa M, Hirata K, Emoto N (2021) An endothelial activin A-bone morphogenetic protein receptor type 2 link is overdriven in pulmonary hypertension. *Nature communications* **12**(1). doi:10.1038/s41467-021-21961-3
 48. Shimamoto S, Nakagawa Y, Hidaka Y, Maruno T, Kobayashi Y, Kawahara K, Yoshida T, Ohkubo T, Aritake K, Kaushik MK, Urade Y (2021) Substrate-induced product-release mechanism of lipocalin-type prostaglandin D synthase. *Biochemical and biophysical research communications* 66-71. doi:10.1016/j.bbrc.2021.06.092
 49. Omoya R, Miyajima M, Ohta K, Suzuki Y, Aoki A, Fujiwara M, Watanabe T, Yoshida N, Suwa H, Kawara T, Takahashi H, Matsushima E, Takeuchi T (2021) Heart rate response to orthostatic challenge in patients with dementia with Lewy bodies and Alzheimer's disease. *Psychogeriatrics* **21**(1): 62-70. doi:10.1111/psyg.12625
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52. Shokirova H, Inomata T, Saitoh T, Zhu J, Fujio K, Okumura Y, Yanagawa A, Fujimoto K, Sung J, Eguchi A, Miura M, Nagino K, Hirosawa K, Kuwahara M, Akasaki Y, Nagase H, Murakami A (2021) Topical administration of the kappa opioid receptor agonist nalfurafine suppresses corneal neovascularization and inflammation. *Scientific Reports* **11**(1). doi:10.1038/s41598-021-88118-6
53. Dinh TTH, Iseki H, Mizuno S, Iijima-Mizuno S, Tanimoto Y, Daitoku Y, Kato K, Hamada Y, Hasan ASH, Suzuki H, Murata K, Muratani M, Ema M, Kim JD, Ishida J, Fukamizu A, Kato M, Takahashi S, Yagami K, Wilson V, Arkell RM, Sugiyama F (2021) Disruption of entire Cables2 locus leads to embryonic lethality by diminished Rps21 gene expression and enhanced p53 pathway. *Elife* **10**. doi:10.7554/eLife.50346
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57. Kato Y, Chen H, Furuse K, Kitagawa H (2021) Unifying spatial keyword indexing in continuous search on dynamic objects. Proc. FICC 2021. *Advances in Intelligent Systems and Computing* **1364** 415–430. doi:10.1007/978-3-030-73103-8_29
58. Khalique V, Kitagawa H (2021) VOA*: Fast angle-based outlier detection over high-dimensional data streams. Proc. PAKDD 2021. *Lecture Notes in Computer Science* **12712** 44-52. doi:10.1007/978-3-030-75762-5_4
59. Yoshimura C, Kitagawa H (2021) TLV-Bandit: Bandit method for collecting topic-related local tweets. Proc. 2021. *IEEE 4th International Conference on Multimedia Information Processing and Retrieval (MIPR)* 56-62. doi:1109/MIPR51284.2021.00016
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65. Park I, Díaz J, Matsumoto S, Iwayama K, Nabekura Y, Ogata H, Kayaba M, Aoyagi A, Yajima K, Satoh M, Tokuyama K, Vogt K (2021) Exercise improves the quality of slow-wave sleep by increasing slow-wave stability. *Scientific Reports* **11**(1). doi:10.1038/s41598-021-83817-6
66. Park I, Suzuki C, Suzuki Y, Kawana F, Yajima K, Fukusumi S, Kokubo T, Tokuyama K, Yanagisawa M, Satoh M (2021) Effects of body pillow use on sleeping posture and sleep architecture in healthy young adults. *Sleep Medicine Research* **12**(1): 57-63.
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(2) Review articles

1. Fifel K, Videnovic A (2021) Circadian and sleep dysfunctions in neurodegenerative disorders-an update. *Frontiers in Neuroscience* **14**. doi:10.3389/fnins.2020.627330
2. Bjorness ET, Greene WR (2021) Interaction between cocaine use and sleep behavior: A comprehensive review of cocaine's disrupting influence on sleep behavior and sleep disruptions influence on reward seeking. *Pharmacology Biochemistry and Behavior* **206**. doi:10.1016/j.pbb.2021.173194
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6. Kikuchi JK, Nagashima Y, Mano T, Ishiura H, Hayashi T, Shimizu J, Matsukawa T, Ichikawa Y, Takahashi Y, Karino S, Kanbayashi T, Kira J, Goto J, Tsuji S (2021) Cerebellar ataxia as a common clinical presentation associated with DNMT1 p.Y511H and a review of the literature. *Journal of Molecular Neuroscience* **71**(9): 1796-1801. doi:10.1007/s12031-020-01784-5
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