

List of Publications in 2022

WPI papers

(1) Original Articles

1. Ikeda Y, Morita E, Muroi K, Arai Y, Ikeda T, Takahashi T, Shiraki N, Doki S, Hori D, Oi Y, Sasahara S, Ishihara A, Matsumoto S, Yanagisawa M, Satoh M, Matsuzaki I (2022) Relationships between sleep efficiency and lifestyle evaluated by objective sleep assessment: Sleep Epidemiology Project at University of Tsukuba. *Nagoya J. Med. Sci.* **84**(3):554-569. doi:10.18999/nagjms.84.3.554
2. Fifel K, Deboer T (2022) Heterogenous electrophysiological responses of functionally distinct striatal subregions to circadian and sleep-related homeostatic processes. *Sleep* **45**(1). doi:10.1093/sleep/zsab230
3. Park I, Kokudo C, Seol J, Ishihara A, Zhang SM, Uchizawa A, Osumi H, Miyamoto R, Horie K, Suzuki C, Suzuki Y, Okura T, Diaz J, Vogt KE, Tokuyama K (2022) Instability of non-REM sleep in older women evaluated by sleep-stage transition and envelope analyses. *Front. Aging Neurosci.* **14**. doi:10.3389/fnagi.2022.1050648
4. Hori D, Arai Y, Morita E, Ikeda Y, Muroi K, Ishitsuka M, Ikeda T, Takahashi T, Doki S, Oi Y, Sasahara S, Ishihara A, Matsumoto S, Kanbayashi T, Yanagisawa M, Satoh M (2022) Morning preference is associated with subjective happiness among Japanese female workers: A moderation analysis by sleep characteristics from the SLEPT study. *Chronobiol. Int.* **39**(5):690-703. doi:10.1080/07420528.2022.2028801
5. Nemoto T, Irukayama-Tomobe Y, Hirose Y, Tanaka H, Takahashi G, Takahashi S, Yanagisawa M, Kanbayashi T (2022) Effect of sevoflurane preconditioning on sleep reintegration after alteration by lipopolysaccharide. *J. Sleep Res.* **31**(5). doi:10.1002/advs.202203170
6. Fifel K, Yanagisawa M, Deboer T (2022) Mechanisms of sleep/wake regulation under hypodopaminergic state: Insights from MitoPark mouse model of Parkinson's disease. *Adv. Sci.* **10**(5). doi:10.1002/advs.202203170
7. Fujiyama T, Takenaka H, Asano F, Miyanishi K, Hotta-Hirashima N, Ishikawa Y, Kanno S, Seoane-Collazo P, Miwa H, Hoshino M, Yanagisawa M, Funato H (2022) Mice lacking cerebellar cortex and related structures show a decrease in slow-wave activity with normal non-REM sleep amount and sleep homeostasis. *Front. Behav. Neurosci.* **16**. doi:10.3389/fnbeh.2022.910461
8. Fifel K, El Farissi A, Cherasse Y, Yanagisawa M (2022) Motivational and valence-related modulation of sleep/wake behavior are mediated by midbrain dopamine and uncoupled from the homeostatic and circadian processes. *Adv. Sci.* **9**(24). doi:10.1002/advs.202200640
9. Han G, Matsumoto S, Diaz J, Greene RW, Vogt KE (2022) Dihydropyridine calcium blockers do not interfere with non-rapid eye movement sleep. *Front. Neurosci.* **16**. doi:10.3389/fnins.2022.969712
10. Suzuki-Abe H, Sonomura K, Nakata S, Miyanishi K, Mahmoud A, Hotta-Hirashima N, Miyoshi C, Sato TA, Funato H, Yanagisawa M (2022) Metabolomic and pharmacologic analyses of brain substances associated with sleep pressure in mice. *Neurosci. Res.* **177**:16-24. doi:10.1016/j.neures.2021.11.008
11. Bjorness TE, Greene RW (2022) Arousal-mediated sleep disturbance persists during cocaine abstinence in male mice. *Front. Neurosci.* **16**. doi:10.3389/fnins.2022.868049
12. Xu JJ, Zhou R, Wang GD, Guo Y, Gao X, Zhou S, Ma CY, Chen L, Shi BH, Wang HY, Wang FC, Liu, Q (2022) Regulation of sleep quantity and intensity by long and short isoforms of SLEEPY kinas5. *Sleep* **45**(11). doi:10.1093/sleep/zsac198
13. Wang GD, Li Q, Xu JJ, Zhao S, Zhou R, Chen ZK, Jiang WT, Gao X, Zhou S, Chen ZY, Sun QZ, Ma

- CY, Chen L, Shi BH, Guo Y, Wang HY, Wang X, Li HY, Cai T, Wang YB, Chen ZN, Wang FC, Liu QH (2022) Somatic genetics analysis of sleep in adult mice. *J. Neurosci.* **42**(28):5617-5640. doi:10.1523/JNEUROSCI.0089-22.2022
14. Adachi M, Nagaura Y, Eto H, Kondo H, Kato C (2022) The impact of sleep-wake problems on health-related quality of life among Japanese nursing college students: a cross sectional survey. *Health Qual. Life Outcomes* **20**(1). doi:10.1186/s12955-022-02063-0
 15. Miyazaki S, Kawano T, Yanagisawa M, Hayashi Y (2022) Intracellular Ca²⁺ dynamics in the ALA neuron reflect sleep pressure and regulate sleep in *Caenorhabditis elegans*. *iScience* **25**(6). doi:10.1016/j.isci.2022.104452
 16. Hasegawa E, Miyasaka A, Sakurai K, Cherasse Y, Li YL, Sakurai T (2022) Rapid eye movement sleep is initiated by basolateral amygdala dopamine signaling in mice. *Science* **375**(6584):994-1000. doi:10.1126/science.abl6618
 17. Kim M, Seol J, Sato T, Fukamizu Y, Sakurai T, Okura T (2022) Effect of 12-week intake of nicotinamide mononucleotide on sleep quality, fatigue, and physical performance in older Japanese adults: A randomized, double-blind placebo-controlled study. *Nutrients* **14**(4). doi:10.3390/nu14040755
 18. Zhou R, Wang GD, Li Q, Meng FX, Liu C, Gan R, Ju DP, Liao MM, Xu JJ, Sang D, Gao X, Zhou S, Wu KJ, Sun QZ, Guo Y, Wu CY, Chen ZY, Chen L, Shi BH, Wang HY, Wang X, Li HY, Cai T, Li B, Wang FC, Funato H, Yanagisawa M, Zhang EE, Liu QH (2022) A signalling pathway for transcriptional regulation of sleep amount in mice. *Nature* **612**(7940):519-527. doi:10.1038/s41586-022-05510-6
 19. Kim SJ, Hotta-Hirashima N, Asano F, Kitazono T, Iwasaki K, Nakata S, Komiya H, Asama N, Matsuoka T, Fujiyama T, Ikkyu A, Kakizaki M, Kanno S, Choi J, Kumar D, Tsukamoto T, Elhosainy A, Mizuno S, Miyazaki S, Tsuneoka Y, Sugiyama F, Takahashi S, Hayashi Y, Muratani M, Liu Q, Miyoshi C, Yanagisawa M, Funato H (2022) Kinase signalling in excitatory neurons regulates sleep quantity and depth. *Nature* **612** (7940):512-518. doi:10.1038/s41586-022-05450-1
 20. Chen ZK, Dong H, Liu CW, Liu WY, Zhao YN, Xu W, Sun X, Xiong YY, Liu YY, Yuan XS, Wang B, Lazarus M, Cherasse Y, Li YD, Han F, Qu WM, Ding FF, Huang ZL (2022) A cluster of mesopontine GABAergic neurons suppresses REM sleep and curbs cataplexy. *Cell Discov.* **8**(1):115. doi:10.1038/s41421-022-00456-5
 21. Tone D, Ode KL, Zhang QH, Fujishima H, Yamada RG, Nagashima Y, Matsumoto K, Wen ZQ, Yoshida SY, Mitani TT, Arisato Y, Ohno R, Ukai-Tadenuma M, Garcon JY, Kaneko M, Shi S, Ukai H, Miyamichi K, Okada T, Sumiyama K, Kiyonari H, Ueda HR (2022) Distinct phosphorylation states of mammalian CaMKII beta control the induction and maintenance of sleep. *PLoS. Biol.* **20**(10). doi:10.1371/journal.pbio.3001813
 22. Uemura SI, Imanishi A, Terui Y, Park I, Satake M, Han G, Shioya T, Kanbayashi T, Nishino S (2022) Residual effects of low dose of suvorexant, zolpidem, and ramelteon in healthy elderly subjects: A randomized double-blind study. *Neuropsychopharmacol. Rep.* **42**(3):288-298. doi:10.1002/npr2.12262
 23. Ogawa T, Kajiyama Y, Ishido H, Chiba S, Revankar GS, Nakano T, Taniguchi S, Kanbayashi T, Ikenaka K, Mochizuki H (2022) Decreased cerebrospinal fluid orexin levels not associated with clinical sleep disturbance in Parkinson's disease: A retrospective study. *PLoS One* **17**(12). doi:10.1371/journal.pone.0279747
 24. Yamamoto H, Nagumo Y, Ishikawa Y, Irukayama-Tomobe Y, Namekawa Y, Nemoto T, Tanaka H, Takahashi G, Tokuda A, Saitoh T, Nagase H, Funato H, Yanagisawa M (2022) OX2R-selective orexin agonism is sufficient to ameliorate cataplexy and sleep/wake fragmentation without inducing drug-seeking behavior in mouse model of narcolepsy. *PLoS One* **17**(7). doi:10.1371/journal.pone.0271901

25. Korkutata M, Agrawal L, Lazarus M (2022) Allosteric modulation of adenosine A(2A) receptors as a new therapeutic avenue. *Int. J. Mol. Sci.* **23**(4):128-130. doi:10.3390/ijms23042101
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27. 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. *Chronobiol. Int.* **39**(4):602-612. doi:10.1080/07420528.2021.2014517
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29. Nagayama M, Aritake T, Hino H, Kanda T, Miyazaki T, Yanagisawa M, Akah, S, Murata N (2022) Detecting cell assemblies by NMF-based clustering from calcium imaging data. *Neural Netw.* **149**:29-39. doi:10.1016/j.neunet.2022.01.023
30. Saitoh T, Amezawa M, Horiuchi J, Nagumo Y, Yamamoto N, Kutsumura N, Ohshita R, Tokuda A, Irukayama-Tomobe Y, Ogawa Y, Ishikawa Y, Hasegawa E, Sakurai T, Uchida Y, Sato T, Gouda H, Tanimura R, Yangisawa M, Nagase H (2022) Discovery of novel orexin receptor antagonists using a 1,3,5-trioxazatri-quinane bearing multiple effective residues (TriMER) library. *Eur. J. Med. Chem.* **240**. doi:10.1016/j.ejmech.2022.114505
31. Miyagawa T, Tanaka S, Shimada M, Sakai N, Tanida K, Kotorii N, Kotorii T, Ariyoshi Y, Hashizume Y, Ogi K, Hiejima H, Kanbayashi T, Imanishi A, Ikegami A, Kamei Y, Hida A, Wada Y, Miyamoto M, Takami M, Kondo H, Tamura Y, Taniyama Y, Omata N, Mizuno T, Moriya S, Furuya H, Kato M, Kato K, Ishigooka J, Tsuruta K, Chiba S, Yamada N, Okawa M, Hirata K, Kuroda K, Kume K, Uchimura N, Kitada M, Kodama T, Inoue Y, Nishino S, Mishima K, Tokunaga K, Honda M (2022) A rare genetic variant in the cleavage site of prepro-orexin is associated with idiopathic hypersomnia. *npj Genom. Med.* **7**(1). doi:10.1038/s41525-022-00298-w
32. Iio K, Saitoh T, Ohshita R, Hino T, Amezawa M, Takayama Y, Nagumo Y, Yamamoto N, Kutsumura N, Irukayama-Tomobe Y, Ishikawa Y, Tanimura R, Yanagisawa M, Nagase H (2022) Discovery of orexin 2 receptor selective and dual orexin receptor agonists based on the tetralin structure: Switching of receptor selectivity by chirality on the tetralin ring. *Bioorg. Med. Chem. Lett.* **60**. doi:10.1016/j.bmcl.2022.128555
33. Wianny F, Dzahini K, Fifel K, Wilson CRE, Bernat A, Dolmazon V, Misery P, Lamy C, Giroud P, Cooper HM, Knoblauch K, Procyk E, Kennedy H, Savatier P, Dehay C, Vezoli J (2022) Induced cognitive impairments reversed by grafts of neural precursors: A longitudinal study in a macaque model of Parkinson's disease. *Adv. Sci.* **9**(10). doi:10.1002/advs.202103827
34. Tsuneoka Y, Atsumi Y, Makanae A, Yashiro M, Funato H (2022) Fluorescence quenching by high-power LEDs for highly sensitive fluorescence in situ hybridization. *Front. Molec. Neurosci.* **15**. doi:10.3389/fnmol.2022.976349
35. Yamada T, Shi S (2022) Estimating infection-related human mobility networks based on time series data of COVID-19 infection in Japan. *Appl. Sci.-Basel* **12**(18). doi:10.3390/app12189236
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37. Hino T, Saitoh T, Nagumo Y, Yamamoto N, Kutsumura N, Irukayama-Tomobe Y, Ishikawa Y, Tanimura R, Yanagisawa M, Nagase H (2022) Design and synthesis of novel orexin 2 receptor agonists based on naphthalene skeleton. *Bioorg. Med. Chem. Lett.* **59**. doi:10.1016/j.bmcl.2022.128530
38. Katoh K, Kutsumura N, Yamamoto N, Nagumo Y, Saitoh T, Ishikawa Y, Irukayama-Tomobe Y, Tanimura R, Yanagisawa M, Nagase H (2022) Essential structure of orexin 1 receptor antagonist YNT-707: Conversion of the 16-cyclopropylmethyl group to the 16-sulfonamide group in D-nor-nalfurafine derivatives. *Bioorg. Med. Chem. Lett.* **59**. doi:10.1016/j.bmcl.2022.128550
39. Moctezuma LA, Abe T, Molinas M (2022) Two-dimensional CNN-based distinction of human emotions from EEG channels selected by multi-objective evolutionary algorithm. *Sci. Rep* **12**(1). doi:10.1038/s41598-022-07517-5
40. Shimazaki K, Sugimoto T, Toda H, Takahashi H (2022) A polyimide film-based simple force plate for measuring the body mass of tiny insects. *Sensors* **22**(21). doi:10.3390/s22218352
41. 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. *J. Diabetes Investig.* **13**(3):532-542. doi:10.1111/jdi.13699
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45. Uenohara Y, Tsumura S, Hirayama S, Higashi E, Watanabe Y, Gouda H, Nagase H, Fujii H (2022) Morphinan derivatives with an oxabicyclo[3.2.1]octane structure as dual agonists toward delta and Kappa opioid receptors. *Bioorg. Med. Chem.* **53**. doi:10.1016/j.bmc.2021.116552
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52. 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
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55. Yamada M, Kitagawa H, Amagasa T, Matono A (2022) Augmented lineage: traceability of data analysis including complex UDF processing. *VLDB J.* doi:10.1007/s00778-022-00769-7
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57. Li YD, Luo YJ, Chen ZK, Quintanilla L, Cherasse Y, Zhang LB, Lazarus M, Huang ZL, Song J (2022) Hypothalamic modulation of adult hippocampal neurogenesis in mice confers activity-dependent regulation of memory and anxiety-like behavior. *Nat. Neurosci.* **25**(5):630–645. doi:10.1038/s41593-022-01065-x
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61. Horie K, Ota L, Miyamoto R, Abe T, Suzuki Y, Kawana F, Kokubo T, Yanagisawa M, Kitagawa H (2022) Automated sleep stage scoring employing a reasoning mechanism and evaluation of its explainability. *Sci. Rep.* **12**(1):12799. doi:10.1038/s41598-022-16334-9
62. Bou S, Kitagawa H, Amagasa T (2022) CPIx: Real-time analytics over out-of-order data streams by incremental sliding-window aggregation. *IEEE Transactions on Knowledge and Data Engineering* **34**(11):5239-5250. doi:10.1109/TKDE.2021.3054898

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65. Shaikh S A, Kitagawa H, Matono A, Kim K S (2022) TStream: A framework for real-time and scalable trajectory stream processing and analysis. *Proc. ACM SIGSPATIAL 2022*:30. doi:10.1145/3557915.3560964
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(2) Review articles

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73. Saitoh T (2022) Discovery of OX1R specific antagonists bearing morphinan skeleton. *THE CHEMICAL TIMES* **264**(2):9-15.
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(3) Proceedings

76. Bou S, Amagasa T, Kitagawa H (2022) InTrans: Fast incremental transformer for time series data prediction. *Lecture Notes in Computer Science* **13427**:47-61. doi:10.1007/978-3-031-12426-6_4
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(4) Other English Articles

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