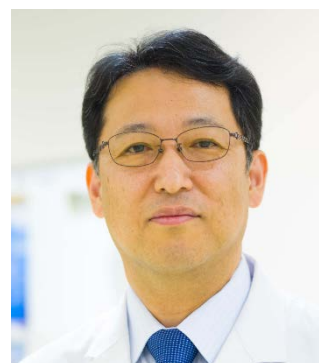


Department of Psychiatry

Principal Investigator Tetsuaki ARAI

E-mail.address 4632tetsu@md.tsukuba.ac.jp

URL <http://www.tsukuba-psychiatry.com/>



Other Faculty Members

Associate Professor	Kiyotaka NEMOTO	kiyotaka@nemotos.net
Associate Professor	Miho OTA	ota@md.tsukuba.ac.jp
Assistant Professor	Yuki SHIRATORI	yuki.shiratori@md.tsukuba.ac.jp
Assistant Professor	Masayuki IDE	idem@md.tsukuba.ac.jp
Assistant Professor	Asaki MATSUZAKI	asaki@md.tsukuba.ac.jp
Assistant Professor	Noriko SODEYAMA	sodeyama@md.tsukuba.ac.jp
Assistant Professor	Masashi TAMURA	tamuramas@gmail.com

Major Scientific Interests of the Group

The major scientific interest of our group is both biological and psychological aspects of psychiatric disorders, including dementia, depression, schizophrenia, eating disorder, perinatal psychiatric disorders, suicide prevention, and disaster psychiatry. We use the methods such as intervention, radiology, social psychiatry, neuropathology, and molecular biology.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Neuropathological and biochemical study of dementia using autopsied human brains
- 2) Clinical study of mild cognitive impairment in day care facility
- 3) Neuroimaging study of the patients with dementia and psychiatric disorders, including schizophrenia and depression
- 4) Clinical study of eating disorders
- 5) Prevention of suicide
- 6) Disaster psychiatry
- 7) Perinatal mental health

Study Programs for Short Stay Students (one week – one trimester)

- 1) Clinical study of mild cognitive impairment in day care facility
- 2) Clinico-pathological conference of dementia
- 3) Neuroimaging study

Selected Publications

2018

- 1) Miyauchi E, Ide M, Tachikawa H, Nemoto K, Arai T, Kawasaki M. : A novel approach for assessing neuromodulation using phase-locked information measured with TMS-EEG. *Sci Rep.* 23;9(1):428. 2019 Jan
- 2) Lebowitz A, Tachikawa H, Aiba M, Okamoto Y, Takahashi S, Nemoto K, Arai T. Post-flood social support networks and morbidity in Jôshû City, Japan. *Psychiatry Res.* 2019 Jan;271:708-714. doi: 10.1016/j.psychres.2018.11.073. Epub 2018 Dec 5
- 3) Sato S, Tamura M, Takahashi T, Arai T: TSUMURA Ninjin'yoeito Extract; a Kampo (traditional herbal medicine) improved Apathy in a Mild Cognitive Impairment Patient. *CPNT.* 2018; 9:17-19.
- 4) Tsukada E, Kitamura S, Enomoto M, Moriwaki A, Kamio Y, Asada T, Arai T, Mishima K. : Prevalence of childhood obstructive sleep apnea syndrome and its role in daytime sleepiness. *PLoS One.* 13(10):e0204409. 2018 Oct
- 5) Kobayashi Z, Arai T, Kawakami I, Yokota O, Hosokawa M, Oshima K, Niizato K, Shiraishi A, Akiyama H, Mizusawa H. : Clinical features of the behavioural variant of frontotemporal dementia that are useful for predicting underlying pathological subtypes of frontotemporal lobar degeneration. *Psychogeriatrics.* 18(4):307-312. 2018 July
- 6) Midorikawa H, Ide M, Nemoto K, Mizukami K, Asada T, Arai T.: Imaging studies of kleptomania in a middle-aged woman with obsessive-compulsive disorder: a case report. *Psychogeriatrics.* 18(5):430-433. 2018 Sep
- 7) Komatsu J, Samuraki M, Nakajima K, Arai H, Arai H, Arai T, Asada T, Fujishiro H, Hanyu H, Iizuka O, Iseki E, Kashihara K, Kosaka K, Maruno H, Mizukami K, Mizuno Y, Mori E, Nakamura H, Nakano S, Nakashima K, Nishio Y, Orimo S, Takahashi A, Taki J, Tokuda T, Urakami K, Utsumi K, Wada K, Washimi Y, Yamashina S, Yamasaki J, Yoshita M, Yamada M.: ¹²³I-MIBG myocardial scintigraphy for the diagnosis of DLB: a multicentre 3-year follow-up study. *J Neurol Neurosurg Psychiatry.* 89(11):1167-1173. 2018 Nov
- 8) Higashi S, Watanabe R, Arai T.: Fluorescence in-situ hybridization method reveals that carboxyl-terminal fragments of transactive response DNA-binding protein-43 truncated at the amino acid residue 218 reduce poly(A)⁺ RNA expression. *Neuroreport.* 2018 Jul 4;29(10):846-851.
- 9) Tarutani A, Arai T, Murayama S, Hisanaga SI, Hasegawa M. : Potent prion-like behaviors of pathogenic α -synuclein and evaluation of inactivation methods. *Acta Neuropathol Commun.* 2018 Apr 18; 6(1): 29.

2017

- 10) Lebowitz A, Nemoto K, Yamada N, Usuniwa H, Tamura M, Ishikawa K, Arai T. Exercise habit could modulate cognitive benefits from physical and cognitive intervention: *Psychiatry and Clinical Neurosciences.* 2018 Mar;72(3):189-190. doi: 10.1111/pcn.12635. Epub 2018 Feb 7.
- 11) Hosokawa M, Tanaka Y, Arai T, Kondo H, Akiyama H, Hasegawa M. Progranulin haploinsufficiency reduces amyloid beta deposition in Alzheimer's disease model mice. *Experimental Animals.* 2018 Feb 9; PMID: 28845019 doi: 10.1538/expanim.17-0060
- 12) Ishii T, Tachikawa H, Shiratori Y, Hori T, Aiba M, Kuga K, Arai T. What kinds of factors affect the academic outcomes of university students with mental disorders ? : A retrospective study based on medical records. *Asian J Psychiatry.* 2018 Feb;32:67-72. doi:10.1016/j.ajp.2017.11.017. Epub 2017 Dec 2.
- 13) Kudo N, Yamamori H, Ishima T, Nemoto K, Yasuda Y, Fujimoto M, Azechi H, Niitsu T, Numata S, Ikeda M, Iyo M, Ohmori T, Fukunaga M, Watanabe Y, Hashimoto K, Hashimoto R. Plasma Levels of Soluble Tumor Necrosis Factor Receptor 2 (sTNFR2) are Associated with Hippocampal Volume and Cognitive Performance in Patients with Schizophrenia: *The international journal of*

- neuropsychopharmacology. 2018 Feb 24. doi: 10.1093/ijnp/pyy013. [Epub ahead of print]
- 14) Taguchi T, Tachikawa H, Nemoto K, Suzuki M, Nagano T, Tachibana R, Nishimura M, Arai T. Major depressive disorder discrimination using vocal acoustic features. *Journal of affective disorders*. 2018 Jan 1; 225:214-220. doi: 10.1016/j.jad.2017.08.038. Epub 2017 Aug 16
 - 15) Kondo T, Imamura K, Funayama M, Tsukita K, Miyake M, Ohta A, Woltjen K, Nakagawa M, Asada T, Arai T, Kawakatsu S, Izumi Y, Kaji R, Iwata N, Inoue H. : iPSC-Based Compound Screening and In Vitro Trials Identify a Synergistic Anti-amyloid β Combination for Alzheimer's Disease. *Cell Rep*. 2017 Nov 21; 21(8): 2304-2312. doi:10.1016/j.celrep.2017.10.109
 - 16) Watanabe R, Kawakami I, Onaya M, Higashi S, Arai N, Akiyama H, Hasegawa M, Arai T. Frontotemporal dementia with trans-activation response DNA-binding protein 43 presenting with catatonic syndrome. *Neuropathology*. 2017 Nov 7. doi:10.1111/neup.12442
 - 17) Nemoto K, Oka H, Fukuda H, Yamakawa Y. MRI-based Brain Healthcare Quotients: A bridge between neural and behavioral analyses for keeping the brain healthy. *PloS one*. 2017 Oct 27; 12(10):e0187137. doi:10.1371/journal.pone.0187137
 - 18) Aiba M, Tachikawa H, Fukuoka Y, Lebowitz A, Shiratori Y, Doi N, Matsui Y. Standardization of Brief Inventory of Social Support Exchange Network (BISSEN) in Japan. *Psychiatry Res*. 2017 July; 253: 364-372. doi:10.1016/j.psychres.2017.03.056. Epub 2017 Apr 7.
 - 19) Nakamine S, Tachikawa H, Aiba M, Takahashi S, Noguchi H, Takahashi H, Tamiya N. Changes in social capital and depressive states of middle-aged adults in Japan. *PLoS One*. 2017 Dec 7; 12(12):e0189112. doi:10.1371/journal.pone.0189112. eCollection 2017.
 - 20) Shibata T, Musha T, Kosugi Y, Kubo M, Horie Y, Kuwayama N, Kuroda S, Hayashi K, Kobayashi Y, Tanaka M, Matsuzaki H, Nemoto K, Asada T. Altered Neuronal Activity Topography Markers in the Elderly with Increased Atherosclerosis. *FRONTIERS IN AGING NEUROSCIENCE*. 2017 Jul 6; 9:216. doi: 10.3389/fnagi.2017.00216. eCollection 2017.
 - 21) Shimada S, Arai T, Tamaoka A, Homma M. Liquorice-induced hypokalaemia in patients treated with Yokukansan preparations: identification of the risk factors in a retrospective cohort study. *BMJ Open*. 2017 Jun 15; 15; 7(6):e014218. doi: 10.1136/bmjopen-2016-014218
 - 22) Hosokawa M, Kondo H, Serrano GE, Beach TG, Robinson AC, Mann DM, Akiyama H, Hasegawa M & Arai T. Accumulation of multiple neurodegenerative disease-related proteins in familial frontotemporal lobar degeneration associated with granulin mutation. *Scientific Reports*. 2017 May 4; 7(1):1513. doi:10.1038/s41598-017-01587-6
 - 23) Ikari K, Nakao T, Nemoto K, Okada K, Murayama K, Honda S, Kuwano M, Yamada S, Tomiyama H, Tomita M, Toga O, Hiwatashi A, Kanba S. Morphologic and clinical differences between Early- and Late-onset obsessive-compulsive disorder: Voxel-based Morphometric study. *JOURNAL OF OBSESSIVE-COMPULSIVE AND RELATED DISORDERS*. 2017 Apr; 13; 35-41. doi:10.1016/j.jocrd.2017.02.005. eCollection 2017.
 - 24) Ohi K, Shimada T, Nemoto K, Kataoka Y, Yasuyama T, Kimura K, Okubo H, Uehara T, Kawasaki Y. Cognitive clustering in schizophrenia patients, their first-degree relatives and healthy subjects is associated with anterior cingulate cortex volume. *NeuroImage Clinical*. 2017 Aug 8; doi:10.1016/j.nicl.2017.08.008. eCollection 2017.
 - 25) Enokizono T, Nemoto K, Fujiwara J, Tanaka R, Ohto T. Cyclic vomiting syndrome after acute autonomic and sensory neuropathy. *Pediatrics international: official journal of the Japan Pediatric Society*. 2017 Apr; 59(4):503-505. doi:10.1111/ped.13232. Epub 2017 Feb 28.
- 2016
- 26) Enokizono T, Nemoto K, Fujiwara J, Tanaka R, Ohto T. Cyclic vomiting syndrome after acute autonomic and sensory neuropathy. *Pediatr Int*. 2017 Feb 28. doi:10.1111/ped.13232. [Epub ahead of

print]

- 27) Fu R, Noguchi H, Tachikawa H, Aiba M, Nakamine S, Kawamura A, Takahashi H, Tamiya N.: Relation between social network and psychological distress among middle-aged adults in Japan: Evidence from a national longitudinal survey. *Social Science and Medicine* 175: 58-65. doi: 10.1016/j.socscimed.2016.12.043, 2016.
- 28) Saito T, Ikeda M, Hashimoto R, Iwata N; Members of the Clozapine Pharmacogenomics Consortium of Japan are the following., Yamamori H, Yasuda Y, Fujimoto M, Kondo K, Shimasaki A, Kawase K, Miyata M, Mushiroda T, Ozeki T, Kubo M, Fujita K, Kida N, Nakai M, Otsuru T, Fukuji Y, Murakami M, Mizuno K, Shiratsuchi T, Numata S, Ohmori T, Ueno SI, Yada Y, Tanaka S, Kishi Y, Takaki M, Mamoto A, Taniguchi N, Sawa Y, Watanabe H, Noda T, Amano Y, Kimura T, Fukao T, Suwa T, Murai T, Kubota M, Ueda K, Tabuse H, Kanahara N, Kawai N, Nemoto K, Makinodan M, Nishihata Y, Hashimoto N, Kusumi I, Fujii Y, Miyata R, Hirakawa K, Ozaki N. Transethnic Replication Study to Assess the Association Between Clozapine-Induced Agranulocytosis/Granulocytopenia and Genes at 12p12.2 in a Japanese Population. *Biol Psychiatry*. 2016 Dec 16. pii: S0006-3223(16)33110-9. doi: 10.1016/j.biopsych.2016.12.009. [Epub ahead of print]
- 29) Nagata E, Nonaka T, Moriya Y, Fujii N, Okada Y, Tsukamoto H, Itoh J, Okada C, Satoh T, Arai T, Hasegawa M, Takizawa S. Inositol Hexakisphosphate Kinase 2 Promotes Cell Death in Cells with Cytoplasmic TDP-43 Aggregation. *Mol Neurobiol*. 2016 Oct; 53(8): 5377-83. doi: 10.1007/s12035-015-9470-1
- 30) Saito T, Ikeda M, Mushiroda T, Ozeki T, Kondo K, Shimasaki A, Kawase K, Hashimoto S, Yamamori H, Yasuda Y, Fujimoto M, Ohi K, Takeda M, Kamatani Y, Numata S, Ohmori T, Ueno S, Makinodan M, Nishihata Y, Kubota M, Kimura T, Kanahara N, Hashimoto N, Fujita K, Nemoto K, Fukao T, Suwa T, Noda T, Yada Y, Takaki M, Kida N, Otsuru T, Murakami M, Takahashi A, Kubo M, Hashimoto R, Iwata N. Pharmacogenomic Study of Clozapine-Induced Agranulocytosis/Granulocytopenia in a Japanese Population. *Biol Psychiatry*. 2016 Oct 15;80(8):636-42. doi:10.1016/j.biopsych.2015.12.006.
- 31) Hirose M, Hirano Y, Nemoto K, Sutoh C, Asano K, Miyata H, Matsumoto J, Nakazato M, Matsumoto K, Masuda Y, Iyo M, Shimizu E, Nakagawa A. Relationship between symptom dimensions and brain morphology in obsessive-compulsive disorder. *Brain Imaging Behav*. 2016 Oct 11. [Epub ahead of print]
- 32) Yagi M, Hirano Y, Nakazato M, Nemoto K, Ishikawa K, Sutoh C, Miyata H, Matsumoto J, Matsumoto K, Masuda Y, Obata T, Iyo M, Shimizu E, Nakagawa A. Relationship between symptom dimensions and white matter alterations in obsessive-compulsive disorder. *Acta Neuropsychiatr*. 2016 Sep 13:1-11. [Epub ahead of print]
- 33) Kawakami I, Iseki E, Kasanuki K, Minegishi M, Sato K, Hino H, Shibuya K, Fujisawa K, Higashi S, Akiyama H, Furuta A, Takanashi M, Li Y, Hattori N, Mitsuyama Y, Arai H. A family with hereditary diffuse leukoencephalopathy with spheroids caused by a novel c.2442+2T>C mutation in the CSF1R gene. *J Neurol Sci*. 2016 Aug 15;367:349-55.
- 34) Shioiri A, Kurumaji A, Takeuchi T, Nemoto K, Arai H, Nishikawa T. A Decrease in the Volume of Gray Matter as a Risk Factor for Postoperative Delirium Revealed by an Atlas-based Method. *Am J Geriatr Psychiatry*. 2016 Jul;24(7):528-36. doi:10.1016/j.jagp.2015.09.002.
- 35) Cunyoen Kim, Bailiang Wu, Emiko Tanaka, Taeko Watanabe, Kumi Watanabe, Wencan Chen, Sumio Ito, Rika Okumura, Tetsuaki Arai, Tokie Anme. Association between a Change in Social Interaction and Dementia among Elderly People. *International Journal of Gerontology*. 2016 June; 10(2): 76–80. doi: org/10.1016/j.ijge.2016.03.006
- 36) Ishii K, Ishii K, Shioya A, Nemoto K, Tamaoka A. Decreased dopamine transporter and receptor

ligand binding in Parkinsonism with diabetic uremic syndrome. *Ann Nucl Med*. 2016 May;30(4):320-4. doi: 10.1007/s12149-015-1054-7.

- 37) Kawakami I, Kobayashi Z, Arai T, Yokota O, Nonaka T, Aoki N, Niizato K, Oshima K, Higashi S, Katsuse O, Hosokawa M, Hasegawa M, Akiyama H. Chorea as a clinical feature of the basophilic inclusion body disease subtype of fused-in-sarcoma-associated frontotemporal lobar degeneration. *Acta Neuropathologica Communications*. 2016 Apr. doi; 10.1186/s40478-016-0304-9.