

臨床医学域

Nephrology

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Major Scientific Interests of the Group

Major purpose of our research is acting to decrease the number of patients with end-stage kidney failure using both clinical and biological procedures. Through some research activities, we set out to develop a physician scientist enable to lead nephrology medical research on the cutting edge.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Intervention, epidemiological cohort study for patients with chronic kidney disease
- 2) Biological analysis for molecular mechanism of glomerular disease focusing transcription factor, development, aging and inflammation process

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

- 1) Statistics of clinical data set
- 2) Immunohistochemical staining of kidney tissue (immunofluorescence and immunoenzymatic technique) including antigen retrieval, optimization of staining, and evaluation of specificity

Selected Publications

- 1) Yamagata K et al. Effect of behavior modification on outcome in early- to moderate-stage chronic kidney disease: a cluster-randomized trial. PLoS One 2016; 11(3): e0151422
- 2) Yamagata K et al. Histopathological classification of anti-neutrophil cytoplasmic antibody-associated glomerulonephritis in a nationwide Japanese prospective 2-year follow-up cohort study. Clin Exp Nephrol 2019; 23(3): 387-394
- 3) Morito N, Yamagata K, et al. Overexpression of Mafb in podocytes protects against diabetic nephropathy. J Am Soc Nephrol 2014; 25(11): 2546-2557
- 4) Nagai K, Yamagata K et al. Involvement of pentraxin-3 in anti-neutrophil cytoplasmic antibody production induced by aluminum salt adjuvant. Clin Exp Rheumatol 2017; 35(5): 735-738

Rheumatology

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Major Scientific Interests of the Group

Development of novel treatment and diagnostic methods through elucidation of autoimmune diseases at the molecular level.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Novel therapeutic molecular target in Sjögren's syndrome and IgG4 related disease
- 2) Procedure to induce CD4+ T cells from iPS cells constructed from organ infiltrating CD4+ T cells in autoimmune diseases
- 3) Pathogenic role of citrullinated proteins in rheumatoid arthritis
- 4) Regulation mechanism of sialylated IgG in rheumatoid arthritis
- 5) Transcriptional regulation in the differentiation of antigen specific CD4+ T cells and Foxp3+ regulatory T cells in rheumatoid arthritis
- 6) Relation between TLRs activation and the induction of pathogenic CD4+ T cells in systemic lupus erythematosus

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

- 1) Analysis of gene expression in autoimmune disease and their animal models
- 2) Analysis of immune cell subsets in autoimmune diseases and their animal models

Selected Publications

- 1) Segawa S, Kondo Y, Nakai Y, Iizuka A, Kaneko S, Yokosawa M, Furuyama K, Tsuboi H, Goto D, Matsumoto I, Sumida T. Placenta specific-8 suppresses IL-18 production through regulation of autophagy and is associated with Adult Still disease. *J Immunol* 201(12):3535-3545, 2018
- 2) Kawaguchi H, Matsumoto I, Osasda A, Kurata I, Ebe H, Tanaka Y, Inoue A, Umeda N, Kondo Y, Tsuboi H, Shinkai Y, Kumagai Y, Ishigami A, Sumida T. Identification of novel biomarker as citrullinated inter-alpha-trypsin inhibitor heavy chain 4, specifically increased in sera with experimental and rheumatoid arthritis. *Arthritis Res Ther* 20(1):66, 2018
- 3) Kondo Y, Yokosawa M, Kaneko S, Furuyama K, Segawa S, Tsuboi H, Matsumoto I, Sumida T. Transcriptional regulation of CD4+ T cell differentiation in experimentally-induced arthritis and rheumatoid arthritis. *Arthritis Rheum* 70(5):653-661, 2018

- 4) Iizuka-Koga M, Asashima H, Ando M, Lai C-Y, Mochizuki S, Nakanishi M, Nishimura T, Tsuboi H, Hirota T, Takahashi H, Matsumoto I, Otsu M, Sumida T. Functional analysis of dendritic cells generated from T-iPS cells from CD4+ T cell clones of Sjogren's syndrome. *Stem Cell Reports* 8(5):1155-1163, 2017
- 5) Tsuboi H, Hagiwara S, Asashima H, Takahashi H, Hirota T, Umehara H, Kawakami A, Nakamura H, Sano H, Tsubota K, Ogawa Y, Takamura E, Saito I, Inoue H, Nakamura S, Moriyama M, Takeuchi T, Tanaka Y, Hirata S, Mimori T, Matsumoto I, Sumida T. Comparison of the performance of new ACR-EULAR classification criteria for primary Sjogren's syndrome with former sets of criteria in Japanese patients. *Ann Rheum Dis* 76(12):1980-1985, 2017
- 6) Inoue A, Matsumoto I, Tanaka Y, Umeda N, Takai C, Kawaguchi H, Ebe H, Yoshida H, Matsumoto Y, Segawa S, Takahashi S, Sumida T. TIARP attenuates autoantibody-mediated arthritis via the suppression of neutrophil migration by reducing CXCL2/CXCR2 and IL-6 expression. *Sci Rep* 6:38684, 2016
- 7) Asashima H, Tsuboi H, Iizuka M, Hirota T, Kondo Y, Matsumoto I, Sumida T. The Anergy Induction of M3 Muscarinic Acetylcholine Receptor-Reactive CD4+ T Cells Suppresses Experimental Sialadenitis-like Sjogren's Syndrome. *Arthritis Rheum* 67(8):2213-25, 2015
- 8) Kondo Y, Yao Z, Tahara M, Izuka M, Yokosawa M, Kaneko S, Segawa S, Tsuboi H, Yoh K, Takahashi S, Matsumoto I, Sumida T. Involvement of ROR γ t-overexpressing T cells in the development of autoimmune arthritis in mice. *Arthritis Res Ther* 17(1):105, 2015
- 9) Iizuka M, Tsuboi H, Matsuo N, Asashima H, Hirota T, Kondo Y, Iwakura Y, Takahashi S, Matsumoto I, Sumida T. A crucial role of ROR γ t in the development of spontaneous sialadenitis-like Sjogren's syndrome. *J Immunol* 194(1):56-67, 2015
- 10) Tsuboi H, Nakai Y, Iizuka M, Asashima H, Hagiya C, Tsuzuki S, Hirota T, Miki H, Hagiwara S, Kondo Y, Tanaka A, Moriyama M, Matsumoto I, Nakamura S, Yoshihara T, Abe K, Sumida T. DNA microarray analysis of labial salivary glands in IgG4-related disease. Comparison with Sjogren's syndrome. *Arthritis Rheum* 66(10):2892-9, 2014

Hematology

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Assistant Professor: Yasuhisa Yokoyama

Major Scientific Interests of the Group

Molecular mechanisms underlying normal and abnormal hematopoiesis: genetic and epigenetic abnormalities in hematologic malignancies are studied using patient-derived samples and genetically engineered mouse models. Including studies of microenvironmental cells in the malignancies.

Projects for Regular Students in Doctoral or Master's Programs

- Role of epigenetic regulator, Tet enzymes in hematologic malignancies.
- Studying microenvironmental cell abnormalities in the bone marrow and lymphoid malignancies.

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

- Learn procedures for analyzing progenitor cells from mouse bone marrow by flowcytometry
- Learn blood cell transplantation in mouse model

Selected Publications

- 1) Sakamoto T, Obara N, Nishikii K, Kato T, et al., Sakata-Yanagimoto M, Takahashi S, and Chiba S. Notch signaling in Nestin-expressing cells in the bone marrow maintains erythropoiesis via macrophage integrity. *Stem Cells* (doi: 10.1002/stem.3011) [Epub ahead of print]
- 2) Fujisawa M, Sakata-Yanagimoto M, et al., Gaulard P, Ohshima K, and Chiba S. Activation of RHOA-VAV1 signaling in angioimmunoblastic T-cell lymphoma. *Leukemia*. 32(3):694-702, 2018.
- 3) Suehara Y, Sakata-Yanagimoto M, et al., Kusakabe M, Kurita N, Kato T, Yokoyama Y, Nishikii H, Obara N, Hasegawa Y, Chiba S. Liquid biopsy for the identification of intravascular large B-cell lymphoma. *Haematologica*. 103(6):e241-e244, 2018.
- 4) Pierini A*, Nishikii H*, et al., Chiba S, and Negrin RS. Foxp3+ regulatory T cells maintain the bone marrow microenvironment for B cell lymphopoiesis. *Nat Commun*. 8:15068, 2017 (*equal contribution)
- 5) Nguyen TB, Sakata-Yanagimoto M, et al., and Chiba S. Identification of cell-type-specific mutations in nodal T-cell lymphomas. *Blood Cancer J*. 7(1):e516, 2017
- 6) Makishima H, et al., Chiba S, Miyano S, Shih LY, Haferlach T, Ogawa S, and Maciejewski JP. Dynamics of clonal evolution in myelodysplastic syndromes. *Nat Genet*. 49(2):204-12, 2017.
- 7) Nishikii H, et al., Chiba S, and Negrin RS. DR3 signaling modulates the function of Foxp3+ regulatory T cells and the

severity of acute graft-versus-host disease. *Blood*. 128(24):2846-58, 2016.

- 8) Nishikii H, et al., Nolan GP, Negrin R, and Chiba S. Unipotent megakaryopoietic pathway bridging hematopoietic stem cells and mature megakaryocytes. *Stem Cells*. 33(7):2196-207, 2015.
- 9) Kato T, Sakata-Yanagimoto M, Nishikii H, et al., and Chiba S. Hes1 suppresses acute myeloid leukemia development through FLT3 repression. *Leukemia*. 29(3):576-85, 2015.
- 10) Sakata-Yanagimoto M, Enami T, Yoshida K, et al., and Chiba S. Somatic RHOA mutation in angioimmunoblastic T cell lymphoma. *Nat Genet*. 46(2):171-5, 2014

Gastroenterology

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Major Scientific Interests of the Group

Clarification of pathophysiologic mechanism and development of new therapy for various gastrointestinal disease, including inflammation, infection, immune disorders, and cancer.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Molecular-targeting agents or siRNA against MDM2 and MDM4 in cancer
- 2) Cell injury induced by oxygen species
- 3) Cancer stem cell in cell lines
- 4) New device development in gastrointestinal endoscopy
- 5) Clinical trials for cancer chemotherapy

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

- 1) In vitro procedures of experiments for cell lines
- 2) Clinical trials training

Selected Publications

- 1) Oncolytic Virotherapy and Gene Therapy Strategies for Hepatobiliary Cancers. Yamada T, Hamano Y, Hasegawa N, Seo E, Fukuda K, Yokoyama KK, Hyodo I, Abei M. *Curr Cancer Drug Targets*. 2018;18(2):188-201.
- 2) Potent in vitro and in vivo antitumor effects of MDM2 inhibitor nutlin-3 in gastric cancer cells. Endo S, Yamato K, Hirai S, Moriwaki T, Fukuda K, Suzuki H, Abei M, Nakagawa I, Hyodo I. *Cancer Sci*. 2011;102(3):605-13.
- 3) Gastric acid induces mitochondrial superoxide production and lipid peroxidation in gastric epithelial cells. Matsui H, Nagano Y, Shimokawa O, Kaneko T, Rai K, Udo J, Hirayama A, Nakamura Y, Indo HP, Majima HJ, Hyodo I. *J Gastroenterol*. 2011;46(10):1167-76.
- 4) Newly developed endoscopic detachable snare ligation therapy for colonic diverticular hemorrhage: a multicenter

phase II trial (with videos). Akutsu D, Narasaka T, Kobayashi K, Matsuda K, Wakayama M, Hiroshima Y, Endo S, Mamiya T, Watahiki T, Ikezawa K, Ishida H, Hirose M, Mizokami Y, Hyodo I. *Gastrointest Endosc.* 2018;88(2):370-377.

- 5) Randomized, open-label, phase III study comparing irinotecan with paclitaxel in patients with advanced gastric cancer without severe peritoneal metastasis after failure of prior combination chemotherapy using fluoropyrimidine plus platinum: WJOG 4007 trial. Hironaka S, Ueda S, Yasui H, Nishina T, Tsuda M, Tsumura T, Sugimoto N, Shimodaira H, Tokunaga S, Moriwaki T, Esaki T, Nagase M, Fujitani K, Yamaguchi K, Ura T, Hamamoto Y, Morita S, Okamoto I, Boku N, Hyodo I. *J Clin Oncol.* 2013;31(35):4438-44.

Pulmonary Medicine

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Major Scientific Interests of the Group

- 1) Genetic basis of asthma and COPD
- 2) Helper T cell paradigm in respiratory diseases
- 3) Cross-talk between pro-inflammatory transcription factors and respiratory diseases
- 4) Oxidative stress in the pathogenesis of respiratory diseases
- 5) Molecular targeting for lung cancer
- 6) Psycho-oncology and palliative care research

Projects for Regular Students in Doctoral or Master's Programs

Students in doctoral and master's programs conduct translational research projects to elucidate the aspects described above using genetic, molecular biological and biochemical techniques. Multidisciplinary clinical research studies are also conducted. Students are expected to develop study design, give presentations on their research topics and write scientific papers.

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

Our short term programs present opportunities for students to learn how to handle animal research models and to advance their basic laboratory skills. Those who wish to gain additional experience in clinical respiratory medicine may also participate in educational rounds and conferences.

Selected Publications

- 1) Hayashi S, Matsuno Y, Tsunoda Y, et al. Transcription Factor T-Bet Attenuates the Development of Elastase-Induced Emphysema in Mice. *Am J Respir Cell Mol Biol*. [Epub ahead of print], 2019.
- 2) Kanazawa J, Masuko H, Yatagai Y, et al. Association analyses of eQTLs of the TYRO3 gene and allergic diseases in Japanese populations. *Allergol Int*. 68: 77-81, 2019.
- 3) Sakurai H, Morishima Y, Ishii Y, et al. Sulforaphane ameliorates steroid insensitivity through an Nrf2-dependent pathway in cigarette smoke-exposed asthmatic mice. *Free Radic Biol Med*. 129:473-485, 2018.

- 4) Matsuyama M, Martins AJ, Shallom S, et al. Transcriptional Response of Respiratory Epithelium to Nontuberculous Mycobacteria. *Am J Respir Cell Mol Biol.* 58: 241-252, 2018.
- 5) Nakajima M, Kawaguchi M, Matsuyama M, et al. Transcription Elongation Factor P-TEFb Is Involved in IL-17F Signaling in Airway Smooth Muscle Cells. *Int Arch Allergy Immunol.* 176: 83-90, 2018.
- 6) Yatagai Y, Hirota T, Sakamoto T, et al. Variants near the HLA complex group 22 gene (HCG22) confer increased susceptibility to late-onset asthma in Japanese populations. *J Allergy Clin Immunol.* 138: 281-283, 2016.
- 7) Yamada H, Masuko H, Yatagai Y, et al. Role of Lung Function Genes in the Development of Asthma. *PLoS One.* 11: e0145832, 2016.
- 8) Shiozawa T, Iyama S, Toshima S, et al. Dimethylarginine dimethylaminohydrolase 2 promotes tumor angiogenesis in lung adenocarcinoma. *Virchows Arch.* 468: 179-190, 2016.
- 9) Kiwamoto T, Katoh T, Evans CM, et al. Endogenous airway mucins carry glycans that bind Siglec-F and induce eosinophil apoptosis. *J Allergy Clin Immunol.* 135:1329-1340, 2015.
- 10) Tamura T, Kurishima K, Watanabe H, et al. Characteristics of clinical N0 metastatic non-small cell lung cancer. *Lung Cancer.* 89: 71-75, 2015.
- 11) Nakazawa K, Kurishima K, Tamura T, et al. Survival difference in NSCLC and SCLC patients with diabetes mellitus according to the first-line therapy. *Med Oncol.* 30:367, 2013.
- 12) Hirota T, Takahashi A, Kubo M, et al. Genome-wide association study identifies eight new susceptibility loci for atopic dermatitis in the Japanese population. *Nat Genet.* 44:1222-1226, 2012.
- 13) Hirota T, Takahashi A, Kubo M, et al. Genome-wide association study identifies three new susceptibility loci for adult asthma in the Japanese population. *Nat Genet.* 43: 893-896, 2011.
- 14) Hizawa N, Yamaguchi E, Takahashi D, et al. Functional polymorphisms in the promoter region of macrophage migration inhibitory factor and atopy. *Am J Respir Crit Care Med.* 169: 1014-1018, 2004.
- 15) Hizawa N, Yamaguchi E, Konno S, et al. A functional polymorphism in the RANTES gene promoter is associated with the development of late-onset asthma. *Am J Respir Crit Care Med.* 166: 686-90, 2002.
- 16) Hizawa N, Yamaguchi E, Jinushi E, et al. Increased total serum IgE levels in patients with asthma and promoter polymorphisms at CTLA4 and FCER1B. *J Allergy Clin Immunol.* 108: 74-79, 2001.
- 17) Hizawa N, Yamaguchi E, Jinushi E, et al. A common FCER1B gene promoter polymorphism influences total serum IgE levels in a Japanese population. *Am J Respir Crit Care Med.* 161: 906-909, 2000.

Metabolism and Endocrinology

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Major Scientific Interests of the Group

We have been working to understand the molecular mechanisms of energy metabolism using the newest technologies, such as molecular and cellular biology, gene-engineered animals, genome informatics and trans-omics including lipidomics. We especially focus on lipid metabolism with our original molecular targets: SREBPs, CREBH, Elovl6, CtBP2, and KLF15 (see details in each section) develop new therapeutic approaches for preventing obesity, diabetes, and cardiovascular disease. We reveal that these factors regulate organ lipids in both quantity and quality aspects and energy metabolism, and thus, play pivotal roles in a wide variety of biological and pathological events. Our lab motto is “BREAK the DOGMA”. We always try to open up a new world of science with pieces of novel wisdom to contribute to future therapy for inflammation, cancer, and brain sciences beyond endocrinological and metabolic diseases.

Projects for Regular Students in Doctoral or Master’s Programs

- 1) Energy metabolism and transcription factors with our main target factors: SREBPs, CREBH, Elovl6, CtBP2, and KLF15 relating to the following projects.
- 2) Lipid metabolism for various metabolic diseases
- 3) Pathogenic mechanisms and treatment of diabetes
- 4) Pathogenic mechanisms and treatment of atherosclerosis

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

- 1) Transfection and Luciferase assay for analyzing the function of transcription factors
- 2) Experimental procedures for mouse metabolic disease model. Petting obesity mice and measure blood sugar.

Selected Publications

- 1) Shimano H, et al. SREBP-regulated lipid metabolism: convergent physiology - divergent pathophysiology. *Nat Rev Endocrinol.* 2017 Dec; 13(12):710-730.
- 2) Oishi Y, et al. SREBP1 Contributes to Resolution of Pro-inflammatory TLR4 Signaling by Reprogramming Fatty Acid Metabolism. *Cell Metab.* 2017 Feb 7; 25(2): 412-427
- 3) Zhao H, et al. Elovl6 Deficiency Improves Glycemic Control in Diabetic db/db Mice by Expanding β -Cell Mass and Increasing Insulin Secretory Capacity. *Diabetes.* 2017 Jul; 66(7): 1833-1846.

- 4) Takeuchi Y, et al. KLF15 Enables Rapid Switching between Lipogenesis and Gluconeogenesis during Fasting. *Cell Rep.* **2016** Aug 30; 16(9): 2373-2386.
- 5) Nakagawa Y, et al. Hepatic CREB3L3 Controls Whole-Body Energy Homeostasis and Improves Obesity and Diabetes. *Endocrinology.* **2014** Dec; 155(12): 4706-4719.
- 6) Sunaga H, et al. Deranged fatty acid composition causes pulmonary fibrosis in Elovl6-deficient mice. *Nat Commun.* **2013**; 4: 2563.
- 7) Izumida Y, et al. Glycogen shortage during fasting triggers liver-brain-adipose neurocircuitry to facilitate fat utilization. *Nat Commun.* **2013**; 4: 2316.
- 8) Matsuzaka T, et al. Elovl6 promotes nonalcoholic steatohepatitis in mice and humans. *Hepatology.* **2012** Dec; 56(6): 2199-2208.
- 9) Matsuzaka T, et al. Crucial role of a long-chain fatty acid elongase, Elovl6, in obesity-induced insulin resistance. *Nat Med* 2007 Oct; 13(10): 1193-1202.
- 10) Kato T, et al. Granuphilin is activated by SREBP-1c and involved in impaired insulin secretion in diabetic mice. *Cell Metab* 4(2): 143-54, 2006 Aug
- 11) Nakagawa Y, et al. TFE3 transcriptionally activates hepatic IRS-2, participates in insulin-signaling and , ameliorates diabetes. *Nat Med* 12(1): 107-13, 2006 Jan__
- 12) Ide T, et al. SREBPs suppress IRS-2-mediated insulin signaling in the liver. *Nature Cell Biology* 6(4): 351-7, 2004 Apr

Neurology

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Major Scientific Interests of the Group

- 1) Molecular pathogenesis of Alzheimer's disease
- 2) Neurobiology of degenerative disorders
- 3) Gene therapy for muscular dystrophies
- 4) Neuroimmunology
- 5) Clinical Neurology
- 6) Clinical and epidemiological studies of organoarsenic intoxication

Projects for Regular Students in Doctoral or Master's Programs

- 1) Pathology and biochemistry of neuromuscular disorders
- 2) Neuro-ophthalmology of neurological disorders

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

- 1) Neurophysiology of various neurological disorders
- 2) Immunostaining of neuromuscular diseases

Selected Publications

- 1) Nakamago K, Yamada S, Kawakami R, Koganezawa T, Tamaoka A. Abnormal Saccadic Intrusions with Alzheimer's Disease in Darkness. *Curr Alzheimer Res*. 2019 Mar 10. doi: 10.2174/1567205016666190311102130. [Epub ahead of print]
- 2) Miyake Z, Tomidokoro Y, Tsurubuchi T, Matsumura A, Sakamoto N, Noguchi M, Tamaoka A. Intravascular large B-cell lymphoma presenting with hearing loss and dizziness: A case report. *Medicine (Baltimore)*. 2019 Feb;98(7):e14470. doi: 10.1097/MD.00000000000014470.
- 3) Shiraiwa N, Tamaoka A, Ohkoshi N. Clinical features of drug-induced Parkinsonism. *Neurol Int*. 2018 Dec 20;10(4):7877. doi: 10.4081/ni.2018.7877. eCollection 2018 Dec 5.
- 4) Yamamoto F, Taniguchi K, Mamada N, Tamaoka A, Kametani F, Lakshmana MK, Araki W. TFEB-mediated enhancement of the autophagy-lysosomal pathway dually modulates the process of amyloid β -protein generation in neurons. *Neuroscience*. 2019 Jan 21. pii: S0306-4522(19)30030-2. doi: 10.1016/j.neuroscience.2019.01.010. [Epub ahead of print]
- 5) Tsuji H, Ayako S, Takayashiki N, Irie T, Itoi S, Kodama T, Kaji Y, Matsuoka R, Mashiko R, Shibata Y, Ishii A, Siato Y, Tamaoka A. Meningeal carcinomatosis presenting with leukoencephalopathy-like imaging findings. *eNeurologicalSci*. 2018 Nov 19;14:21-23. doi: 10.1016/j.ensci.2018.11.018. eCollection 2019 Mar.

- 6) Nakamagoe K, Yamada S, Kawakami R, Miyake Z, Tozaka N, Okune S, Takeda H, Koganezawa T, Tamaoka A. Vestibular dysfunction as cortical damage with amyotrophic lateral sclerosis. *J Neurol Sci.* 2018 Dec 5;397:4-8. doi: 10.1016/j.jns.2018.12.006. [Epub ahead of print]
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172) Tamaoka A, Odaka A, Ishibashi Y, Usami M, Sahara N, Suzuki N, Nukina N, Mizusawa H, Shoji S, Kanazawa I, and Mori. APP717 missense mutation affects the ratio of amyloid b protein species (Ab1-42/43 and Ab1-40) in familial Alzheimer's disease brain *J. Biol. Chem.*, 269: 32721-32724, 1994.

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Department of Dermatology

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Major Scientific Interests of the Group

We are working on revealing the function of skin from the aspect of barrier and immune system through mouse models of inflammatory skin diseases and skin tumors, and actual human disease samples.

1. Immune response to skin cancer
2. Autoimmune mechanisms in mucocutaneous diseases and systemic collagen diseases
3. Skin resident memory T cell
4. Skin barrier
5. Skin tumor diagnosis using artificial intelligence

Projects for Regular Students in Doctoral or Master's Programs

- 1) Characterization of immune cells in the skin cancer environments.
- 2) Development of new combination therapies for cancer cells using mouse models.
- 3) To investigate cellular biology in our graft-versus-host disease-like murine model developing dermatitis with lichenoid tissue reaction/interface dermatitis followed by scleroderma
- 4) To develop our original murine models of autoimmune myositis and interstitial pneumonia
- 5) To clarify how the programmed cell death-1 and the ligands axis works in a number of murine models of inflammatory disorders mimicking patients with immune-related adverse effects (irAEs) induced by immune checkpoint blockade
- 6) Skin resident memory T cells and cutaneous disorders

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

- 1) Learn procedures for immunofluorescence analyses of human and mouse skin.
- 2) Learn procedures for flow cytometry analyses of human and mouse immune cells.

Selected Publications

- 1) Koguchi-Yoshioka H, Watanabe R, Fujisawa Y, Ishitsuka Y, Nakamura Y, Okiyama N, Fujimoto M. Skin resident memory T-cell population is not constructed effectively in systemic sclerosis. *Br J Dermatol*, 180:219,2019
- 2) Saito A, Okiyama N, Kubota N, Nakamura Y, Fujisawa Y, Watanabe R, Ishitsuka Y, Bleackley RC, Fujimoto M. Blockade of Granzyme B Remarkably Improves Mucocutaneous Diseases with Keratinocyte Death in Interface Dermatitis. *J Invest Dermatol*. 138:2079-2083, 2018
- 3) Fujisawa, Y., Otomo, Y., Ogata, Y., Nakamura, Y. et al, Deep-learning-based, computer-aided classifier developed with a small dataset of clinical images surpasses board-certified dermatologists in skin tumour diagnosis. *Br J Dermatol*. 2018 in press
- 4) Nakamura Y, Fujisawa Y, Okiyama N, Watanabe R, Tanaka R, Ishitsuka Y, Tahara H, Fujimoto M. Surgical damage to the lymphatic system promotes tumor growth via impaired adaptive immune response. *J Dermatol Sci*. 2018 Apr;90(1):46-51.

- 5) Koguchi-Yoshioka H, Okiyama N, Iwamoto K, Matsumura Y, Ogawa T, Inoue S, Watanabe R, Fujimoto M. Intravenous immunoglobulin contributes to the control of antimelanoma differentiation-associated protein 5 antibody-associated dermatomyositis with palmar violaceous macules/papules. *Br J Dermatol.* 177(5):1442-1446, 2017
- 6) Tanaka R, Okiyama N, Okune M, Ishitsuka Y, Watanabe R, Furuta J, Ohtsuka M, Otsuka A, Maruyama H, Fujisawa Y, Fujimoto M. Serum level of interleukin-6 is increased in nivolumab-associated psoriasiform dermatitis and tumor necrosis factor- α is a biomarker of nivolumab reactivity. *J Dermatol Sci.* 86(1):71-73, 2017

Thoracic Surgery

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Major Scientific Interests of the Group

Lung cancer has become a major cause of death in most of countries. Surgical resection is the most effective for the treatment of lung cancer. Minimal invasive video assisted thoracic surgery (VATS) lobectomy appears to be a safe and effective procedure for treatment of lung cancer. We are making progress not only in reducing surgical stress but also in improving the quality of surgery by developing original devices and techniques. We are focusing also on the multimodal treatment of lung cancer, surgical simulation and estimation of postoperative lung regeneration and function using 3D-CT, development of novel sealant material for surgery, mechanism of invasion of lung cancer, and the mechanism of acute lung injury.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Surgical simulation and estimation of postoperative lung regeneration and function using 3D-CT
- 2) Development of novel sealant material for surgery
- 3) Mechanism of invasion of lung cancer
- 4) Mechanism of acute lung injury

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

- 1) Surgical simulation and estimation of postoperative lung regeneration and function using 3D-CT
- 2) Mechanism of acute lung injury

Selected Publications

- 1) Yamaoka M, Maki N, Wijesinghe A, Sato S, Yanagihara T, Kobayashi N, Kikuchi S, Goto Y, Taguchi T, Sato Y. Novel Alaska Pollock Gelatin Sealant Shows High Adhesive Quality and Conformability. *TheAnnals of thoracic surgery*. Epub.2019.01. DOI: 10.1016/j.athoracsur.2018.11.074
- 2) Goto Y, Hiramatsu Y, Ageyama N, Sato S, Mathis B J, Kitazawa S, Matsubara M, Sakamoto H, Sato Y. Rolipram plus Sivelestat inhibits bone marrow-derived leukocytic lung recruitment after cardiopulmonary bypass in a primate model. *Journal of artificial organs : the official journal of the Japanese Society for Artificial Organs*. 22(1).44-52.2018.10. DOI: 10.1007/s10047-018-1071-0
- 3) Kobayashi N, Kobayashi K, Kikuchi S, Goto Y, Ichimura H, Endo K, Sato Y. Long-term pulmonary function after surgery for lung cancer. *Interactive CardioVascular and Thoracic Surgery*. 24(5). 727-732. 2017.05 DOI: 10.1093/icvts/ivw414

- 4) Kobayashi K, Saeki Y, Kitazawa S, Kobayashi N, Kikuchi S, Goto S, Sakai M, Sato Y. Three-dimensional computed tomographic volumetry precisely predicts the postoperative pulmonary function. *Surg Today*. 47(11). 1301-1311. 2017.04. DOI: 10.1007/s00595-017-1505-y
- 5) Maki N, Takahashi H, Nakata T, Wakayama S, Hasegawa D, Sakamoto H, Fujita Y, Takata Y, Sukada T, Sato Y, Yanagi H. The effect of respiratory rehabilitation for the frail elderly: a pilot study. *Journal of General and Family Medicine*. 17(4). 289-298. 2016.12
- 6) Goto Y, Hiramatsu Y, Ageyama N, Sato S, Kanemoto S, Sato Y, Sakakibara Y. Cardiopulmonary bypass induces recruitment of bone marrow-derived leukocytes to the lungs in monkeys. *Ann Thorac Surg*. 97(2). 617-622. 2014.02. DOI: 10.1016/j.athoracsur.2013.10.072
- 7) Usui S, Minami Y, Siosawa T, Iyama S, Satomi K, Sakashita S, Sato Y, Noguchi M. Differences in the prognostic implications of vascular invasion between lung adenocarcinoma and squamous cell carcinoma. *Lung Cancer*. 82(3). 407-412. 2013.12. DOI: 10.1016/j.lungcan.2013.09.001
- 8) Kikuchi S, Iwai M, Sakurai-Yageta M, Tsuboi Y, Ito T, Maruyama T, Tsuda H, Kanai Y, Onizuka M, Sato Y, Murakami Y. Expression of a splicing variant of the CADM1 specific to small cell lung cancer. *Cancer Science*. 103(6). 1051-1057. 2012.06. DOI: 10.1111/j.1349-7006.2012.02277.x
- 9) Kobayashi N, Usui S, Kikuchi S, Goto Y, Sakai M, Onizuka M, Sato Y. Preoperative lymphocyte count is an independent prognostic factor in node-negative non-small cell lung cancer. *Lung Cancer*. 75(2). 223-227. 2012.02. DOI: 10.1016/j.lungcan.2011.06.009
- 10) Sato Y, Tezuka Y, Kanai Y, Otani S, Yamamoto S, Tetsuka K, Sohara Y. Novel retractor for lymph node dissection by video-assisted thoracic surgery. *Ann Thorac Surg*. 86(3). 1036-37. 2008.09. DOI: 10.1016/j.athoracsur.2008.04.002
- 11) Sato Y, Hiramatsu Y, Homma S, Sato M, Sato S, Endo S, Sohara Y. Phosphodiesterase type 4 inhibitor rolipram inhibits activation of monocytes during extracorporeal circulation. *J Thorac Cardiovasc Surg*. 130(2). 346-350. 2005.08. DOI: 10.1016/j.jtcvs.2004.12.028
- 12) Sakai M, Sato Y, Sato S, Ihara S, Onizuka M, Sakakibara Y, Takahashi H. Effect of relocating to areas of reduced atmospheric particulate matter levels on the human circulating leukocyte count. *J Appl Physiol*. 97(5). 1774-80. 2004.11. DOI: 10.1152/jappphysiol.00024.2004
- 13) Sato Y, Hiramatsu Y, Homma S, Sato S, Onizuka M, Sakakibara Y. Phosphodiesterase type 4 inhibition of activated polymorphonuclear leukocytes in a simulated extracorporeal circulation model. *J Thorac Cardiovasc Surg*. 125(1). 172-177. 2003.01. DOI: 10.1067/mtc.2003.98
- 14) Sato Y, Goto Y, Sato S, Endo S, Sohara Y. Continuous subcutaneous injection reduces polymorphonuclear leukocyte activation by granulocyte colony-stimulating factor. *Am J Physiol Lung Cell Mol Physiol*. 286(1). L143-148. 2004.01. DOI: 10.1152/ajplung.00248.2003
- 15) Sato Y, Modulation of PMN-endothelial cells interactions by cyclic nucleotides. *Curr Pharm Des* 10(2). 163-170. 2004.01
- 16) Sato Y, Sato S, Yamamoto T, Ishikawa S, Onizuka M, Sakakibara Y. Phosphodiesterase type 4 inhibitor reduces the retention of polymorphonuclear leukocytes in the lung. *Am J Physiol Lung Cell Mol Physiol*. 282(6). L1376-81. 2002.01. DOI: 10.1152/ajplung.00433.2001
- 17) Sato Y, Hogg JC, English D, van Eeden SF. Endothelin-1 changes polymorphonuclear leukocytes' deformability and CD11b expression and promotes their retention in the lung. *Am J Respir Cell Mol Biol*. 23(3). 404-410. 2000.09. DOI: 10.1165/ajrcmb.23.3.4057
- 18) Sato Y, Walley KR, Klut ME, English D, D'yachkova Y, Hogg JC, van Eeden SF. Nitric oxide reduces the sequestration of polymorphonuclear leukocytes in lung by changing deformability and CD18 expression. *Am J Respir Crit Care Med*. 159(5 Pt 1) 1469-76. 1999.05. DOI: 10.1164/ajrccm.159.5.9808063
- 19) Sato Y, van Eeden SF, English D, Hogg JC. Bacteremic pneumococcal pneumonia: bone marrow release and pulmonary sequestration of neutrophils. *Crit Care Med*. 26(3) 501-509. 1998.05
- 20) Sato Y, Van Eeden SF, English D, Hogg JC. Pulmonary sequestration of polymorphonuclear leukocytes released

from bone marrow in bacteremic infection. *Am J Physiol.* 275(2). L255-261
1998.08. DOI: 10.1152/ajplung.1998.275. 2L255

Cardiovascular Surgery

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Major Scientific Interests of the Group

Most of clinical questions throughout the cardiovascular surgery field would be our scientific interests as shown in the projects below. Among them we are now focusing on AI application onto the management in the intensive care unit, and development of a novel hybrid ventricular assist device.

Projects for Regular Students in Doctoral or Master's Programs

- 1) AI application onto the management in the intensive care unit
- 2) Development of a novel hybrid ventricular assist device
- 3) Elucidation of signal transduction in aneurysmal formation
- 4) Elucidation of hematological deterioration during cardiopulmonary bypass
- 5) Development of vitamin K-reduced functional food
- 6) Development of valve simulation imaging technology
- 7) Regenerative medicine using adipose tissue stem cells

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

- 1) Involvement in above clinical and translational researches
- 2) Observership in OR, ICU or laboratories

Selected Publications

- 1) Yamashiro Y, Thang BQ, Shin SJ, Lino CA, Nakamura T, Kim J, Sugiyama K, Tokunaga C, Sakamoto H, Osaka M, Davis EC, Wagenseil JE, Hiramatsu Y, Yanagisawa H. Role of thrombospondin-1 in mechanotransduction and development of thoracic aortic aneurysm in mouse and humans. *Circ Res.* 2018 Aug 31;123(6):660-672. doi: 10.1161/CIRCRESAHA.118.313105.
- 2) Goto Y, Hiramatsu Y, Ageyama N, Sato S, Mathis BJ, Kitazawa S, Matsubara M, Sakamoto H, Sato Y. Rolipram plus Sivelestat inhibits bone marrow-derived leukocytic lung recruitment after cardiopulmonary bypass in a primate model. *J Artif Organs* 2018 Oct 3. doi: 10.1007/s10047-018-1071-0.
- 3) Yoneyama F, Osaka M, Sato F, Sakamoto H, Hiramatsu Y. Efficacy of two-dimensional perfusion angiography for evaluations after infrapopliteal bypass surgery for critical limb ischemia. *Ann Vasc Dis* 2018 Jun 25; 11: 248-251. doi: 10.3400/avd.hdi.17-00137.
- 4) Tokunaga C, Sakamoto H, Matsushita S, Hyodo K, Hiramatsu Y. A new method for visualizing pulmonary artery microvasculature using synchrotron radiation pulmonary microangiography: the measurement of pulmonary arterial blood flow velocity in the high pulmonary blood flow rat model. *Acta Radiologica* 2018 DOI:

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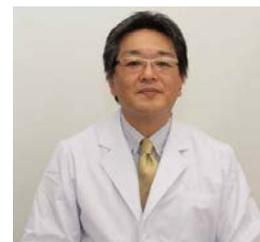
- 5) Khanh VC, Zulkifli AF, Tokunaga C, Yamashita T, Hiramatsu Y, Ohneda O. Aging impairs beige adipocyte differentiation of mesenchymal stem cell via the reduced expression of Sirtuin 1. *Biochemical and Biophysical Research Communications* 2018 Apr. DOI: 10.1016/j.bbrc.2018.04.136
- 6) Yoneyama F, Tokunaga C, Kato H, Nakajima T, Mathis BJ, Sakamoto H, Hiramatsu Y. Landiolol Hydrochloride Rapidly Controls Junctional Ectopic Tachycardia after Pediatric Heart Surgery. *Pediatric Critical Care Medicine* 2018 Apr 19. doi: 10.1097/PCC.0000000000001573 2018 Aug;19(8):713-717.
- 7) Vong LB, Bui TQ, Tomita T, Sakamoto H, Hiramatsu Y, Nagasaki Y. Novel angiogenesis therapeutics by redox injectable hydrogel -Regulation of local nitric oxide generation for effective cardiovascular therapy. *Biomaterials* 2018; 167: 143-152. Online 13 March 2018
- 8) Osuka Y, Matsubara M, Hamasaki A, Hiramatsu Y, Ohshima H, Tanaka K. Development of low-volume, high-intensity, aerobic-type interval training for elderly Japanese men: a feasibility study. *European Review of Aging and Physical Activity* 2017 **14**:14 Aug 24 <https://doi.org/10.1186/s11556-017-0184-4>
- 9) Nakajima T, Enomoto Y, Ishigaki M, Hasegawa Y, Tokunaga C, Hiramatsu Y, Sakamoto H. Perioperative anticoagulation management in a patient with antiphospholipid syndrome who underwent aortic valve replacement. *J Card Surg* 2017 Oct; 32(10): 633-635. doi: 10.1111/jocs.13216. Epub 2017 Sep 24.
- 10) Yoneyama F, Tokunaga C, Enomoto Y, Mitomi K, Sakamoto H, Hiramatsu Y. Isolated versus combined valve surgery in elderly patients: A comparison of mid-term results. *Annals of Thoracic and Cardiovascular Surgery* 2017 Jun 20; 23(3): 123-127. doi: 10.5761/atcs.oa.16-00303. Epub 2017 Mar 9.
- 11) Yoneyama F, Matsubara M, Sakamoto H, Hiramatsu Y. Interventricular septal hematoma associated with congenital heart surgery: Case report and literature review. *J Thorac Cardiovasc Surg*, 2016; 153: e55-57.
- 12) Miya K, Matsushita S, Hyodo K, Tokunaga C, Sakamoto H, Mizutani T, Hiramatsu Y. Renal contrast microangiography with synchrotron radiation: a novel method for visualizing structures within nephrons in vivo. *Acta Radiol* 2016 Jul 20. pii: 0284185116658685.
- 13) Fuji S, Matsushita S, Hyodo K, Osaka M, Sakamoto H, Tanioka K, Miyakawa K, Kubota M, Hiramatsu Y, Tokunaga C. Association between endothelial function and micro-vascular remodeling measured by synchrotron radiation pulmonary micro-angiography in pulmonary arterial hypertension. *General Thoracic Cardiovascular Surgery* 2016; 64: 597-603.
- 14) Sakamoto H, Tsukada T, Tokunaga C, Matsubara M, Aikawa S, Enomoto Y, Sato F, Hiramatsu Y. Left ventricular perforation during catheter ablation in a patient with idiopathic thrombocytopenic purpura. *The Heart Surgery Forum* 2015; 18: E240-E241.
- 15) Sakamoto H, Matsushita S, Hyodo K, Tokunaga C, Sato F, Hiramatsu Y. A new technique of in vivo synchrotron radiation coronary microangiography in the rat. *Acta Radiologica* 2015; 56: 1105-1107.
- 16) Sato M, Hiramatsu Y, Matsushita S, Sato S, Watanabe Y, Sakakibara Y. Shrinkage temperature and anti-calcification property of triglycidylamine-crosslinked autologous tissue. *Journal of Artificial Organs* 2014; 17: 265-271.
- 17) Hiramatsu Y. Pulmonary cusp and annular extension technique for reconstruction of right ventricular outflow in tetralogy of Fallot. *The Annals of Thoracic Surgery* 2014; 98: 1850-1852.

Pediatric Surgery

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Major Scientific Interests of the Group

1. Nutrition Therapy for Children
 - 1.1 Lipid malmetabolism after massive small bowel resection
 - 1.2 Analysis of lipid metabolism change after small bowel resection in mice
 - 1.3 Clinical research of trace elements' deficiency in children
 - 1.4 Study of nutritional management for children with short bowel syndrome
2. Congenital Diaphragmatic Hernia
 - 2.1 Molecular mechanisms of pulmonary hypertension and lung hypoplasia in congenital diaphragmatic hernia
 - 2.2 Analysis of clinical outcome of the patients with congenital diaphragmatic hernia
 - 2.3 Tissue engineering by mesenchymal stem cells for hypoplastic lung in congenital diaphragmatic hernia
3. Pediatric Oncology
 - 3.1 Novel application of cytokines to intractable pediatric solid tumors
4. Pediatric Endoscopic Surgery
 - 4.1 The development of pediatric laparoscopic training simulator with objective evaluation system

Projects for Regular Students in Doctoral or Master's Programs

- 1) Lipid Metabolism in Short Bowel Syndrome

Selected Publications

- 1) Masumoto K. Trace elements deficiency in children receiving nutritional management. *Nihon Rinsho*. 2016;74(7):1214-9.
- 2) Takayasu H, Masumoto K, Jimbo T, Sakamoto N, Sasaki T, Uesugi T, Gotoh C, Urita Y, Shinkai T. Analysis of risk factors of long-term complications in congenital diaphragmatic hernia: A single institution's experience. *Asian J Surg*. 2017; 40(1):1-5.
- 3) Takayasu H, Hagiwara K, Masumoto K. Suppressed erythropoietin expression in a nitrofen-induced congenital diaphragmatic hernia. *Pediatr Pulmonol*. 2017; 52(5): 606-615.

- 4) Masumoto K, Esumi G, Teshiba R, Nagata K, Taguchi T. Usefulness of exchanging a tunneled central venous catheter using a subcutaneous fibrous sheath. *Nutrition* 27(5): 526-529, 2011
- 5) Masumoto K, Nagata K, Oka Y, Kai H, Yamaguchi S, Wada M, Kusuda T, Hara T, Hirose S, Iwasaki A, Taguchi T. Successful treatment of an infected wound in infants by a combination of negative pressure wound therapy and arginine supplementation. *Nutrition* 27(11-12): 1141-1145, 2011
- 6) Jimbo T, Ieiri S, Obata S, Uemura M, Souzaki R, Matsuoka N, Katayama T, Masumoto K, Hashizume M, Taguchi T. Effectiveness of short-term endoscopic surgical skill training for young pediatric surgeons: a validation study using the laparoscopic fundoplication simulator. *Ped Surg Int* 31(10) 963-969, 2015.
- 7) Takayasu H, Masumoto K, Goishi K, Hayakawa M, Tazuke Y, Yokoi A, Terui K, Okuyama H, Usui N, Nagata K, Taguchi T; Japanese Congenital Diaphragmatic Hernia Study Group: Musculoskeletal abnormalities in congenital diaphragmatic hernia survivors: Patterns and risk factors: report of a Japanese multicenter follow-up survey. *Pediatr Int* 58(9):877-80, 2016
- 8) Jimbo T, Ieiri S, Obata S, Uemura M, Souzaki R, Matsuoka N, Katayama T, Masumoto K, Hashizume M, Taguchi T. A new innovative laparoscopic fundoplication training simulator with a surgical skill validation system. *Surg Endosc* 31(2): 1688-1696, 2017

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Major Scientific Interests of the Group

- I. Neurooncology Research Unit
 - 1) Boron Neutron Capture Therapy, Proton Therapy
 - 2) Immunotherapy, Antiangiogenic therapy, Molecular targeted therapy, Viral therapy
- II. Neuroradiology Research Unit
 - 1) Magnetic resonance Imaging; f-MRI, MRS, DTI, intraoperative MRI,
 - 2) Molecular Imaging; PET, SPECT
 - 3) Development of new device for neurointervention
- III. Cerebrovascular Disease Research Unit
 - 1) Cerebral Protection using Nanoparticles
 - 2) Regenerative Medicine using dental pulp stem cells
 - 3) Neurorehabilitation using HAL robot and other BMI modalities
- IV. Functional Neurosurgery and Intraoperative Monitoring
 - 1) Neurophysiological monitoring (SEP, MEP, etc)
 - 2) Intraoperative MRI
 - 3) Deep Brain Stimulation, Epilepsy surgery
- V Neurotrauma and Sports medicine
 - 1) Mechanisms and diagnosis of Brain concussion
 - 2) Brain protection for Brain injury

Projects for Regular Students in Doctoral or Master's Programs

- 1) Upon request negotiable from above topics

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

Upon request negotiable from above topics

Selected Publications

1. Hara T, Akutsu H, Takano S, Kino H, Ishikawa E, Tanaka S, Miyamoto H, Sakamoto N, Hattori K, Sakata-Yanagimoto M, Chiba S, Hiyama T, Masumoto T, Matsumura A: Clinical and biological significance of adamantinomatous craniopharyngioma with CTNNB1 mutation. *J Neurosurg* 2018 Jul 1 [Epub ahead of print]
2. Ishiyama S, Shibata Y, Ayuzawa S, Matsushita A, Matsumura A: Clinical Effect of C2 Peripheral Nerve Field Stimulation Using Electroacupuncture for Primary Headache. *Neuromodulation* 21 (8) 793-796, 2018
3. Marushima A, Nieminen M, Kremenetskaia I, Gianni-Barrera R, Woitzik J, Degenfeld GV, Banfi A, Vajkoczy P, Hecht N: Balanced single-vector co-delivery of VEGF/PDGF-BB improves functional collateralization in chronic cerebral ischemia. *J Cereb Blood Flow Metab* 2019 Jan 9 [Epub ahead of print]
4. Matsuda M, Ishikawa E, Yamamoto T, Hatano K, Joraku A, Iizumi Y, Masuda Y, Nishiyama H, Matsumura A: Potential use of prostate specific membrane antigen (PSMA) for detecting the tumor neovasculature of brain tumors by PET imaging with ⁸⁹Zr-Df-IAB2M anti-PSMA minibody. *J Neurooncol* 138 (3) 581-589, 2018
5. Sato E, Zaboronok A, Yamamoto T, Nakai K, Taskaev S, Volkova O, Mechetina L, Taranin A, Kanygin V, Isobe T, Mathis BJ, Matsumura A: Radiobiological response of U251MG, CHO-K1 and V79 cell lines to accelerator-based boron neutron capture therapy. *J Radiat Res* 59 (2) 101-107, 2018
6. Hosoo H, Marushima A, Nagasaki Y, Hirayama A, Ito H, Puentes S, Mujagic A, Tsurushima H, Tsuruta W, Suzuki K, Matsui H, Matsumaru Y, Yamamoto T, Matsumura A: Neurovascular Unit Protection From Cerebral Ischemia-Reperfusion Injury by Radical-Containing Nanoparticles in Mice. *Stroke*. 2017, 48(8):2238-2247.
7. Watanabe H, Goto R, Tanaka N, Matsumura A, Yanagi H : Effects of gait training using the Hybrid Assistive Limb® in recovery-phase stroke patients:A2-month follow-up, randomized, controlled study. *NeuroRehabilitation* 40, 363-367, 2017

ORTHOPAEDIC SURGERY

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Shigeki KUBOTA Ph.D.

Clinical assistant professor:

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Shinzo ONISHI M.D., Ph.D.

Yukiyo SHIMIZU M.D., Ph.D.

Yukei MATSUMOTO M.D.

Yohei YANAGISAWA M.D., Ph.D.

Kousei MIURA M.D., Ph.D.

Katsuya NAGASHIMA M.D.

Hideki KADONE Ph.D.

Major Scientific Interests of the Group

1. Regenerative medicine and neuroprotective treatment for spinal cord injury.
Basic research and clinical trials for spinal cord injury (cell therapy and drug therapy)

2. Rehabilitation therapy using robotic devices (robot suit Hybrid Assistive Limb (HAL) [®]) for spinal cord lesions, various kinds of spinal disorder, joint diseases and peripheral nerve palsies. Clinical trials and basic research including myoelectric and motion analysis
3. Development of new diagnostic imaging
Dynamic digital tomosynthesis, Diffusion tensor imaging MRI, functional MRI
4. Development of new medical biomaterials in orthopaedic surgery
Basic and clinical research of unidirectional porous β -tricalcium phosphate
Basic and clinical research for combination device (biological and biomaterial): Fibroblast growth factor-2-apatite composite layer coating on screws and external fixation pins
5. Regenerative medicine for bone, cartilage and ligaments of joints
Basic and clinical research of autologous concentrated bone marrow grafting for osteonecrosis and nonunion and intra-articular platelet-rich plasma (PRP) injections for the treatment of osteoarthritis of the knee
6. Research for the elongation of the peripheral nerve
7. Novel treatments in sports medicine
Extra-corporeal shock wave for enthesopathies, platelet rich plasma for tendon/ligament repair

Urology

Principal Investigator Hiroyuki Nishiyama

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Major Scientific Interests of the Group

The molecular pathogenesis in urologic cancers, especially urothelial carcinoma, renal cell carcinoma and testicular tumor, and their translational research. Fields of bladder dysfunction, infertility, regenerative medicine and artificial intelligence as well.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Identification of novel oncogene signals and tumor immune micro-environment in urothelial cancer.
- 2) The effect and mechanism of ELOVL (Elongation of very long chain fatty acids) in the proliferation of renal cancer.
- 3) The antitumor immunity of cationized liposomal trehalose-6,6-dimycolate isolated from *Mycobacterium* in a syngeneic murine bladder cancer model.
- 4) Elucidation of carcinogenesis and invasion mechanisms in bladder cancer via ASIC (Acid-sensing ion channels) and ENaC (epithelial sodium channels).
- 5) The molecular mechanism of bladder dysfunction due to sleep/circadian rhythm disorder.
- 6) Repair and regeneration of bladder dysfunction using purified Human Skeletal Muscle-Derived Stem Cells.

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

Clinical clerkship/Elective: surgery (robotic, laparoscopic, reduced port, open, transurethral, micro etc), clinical conference, outpatient/inpatient care and laboratory meeting.

Selected Publications

1. Cationized liposomal keto-mycolic acids isolated from *Mycobacterium bovis* bacillus Calmette-Guérin induce antitumor immunity in a syngeneic murine bladder cancer model. Yoshino T, Miyazaki J, Kojima T, Kandori S, Shiga M, Kawahara T, Kimura T, Naka T, Kiyohara H, Watanabe M, Yamasaki S, Akaza H, Yano I, Nishiyama H. PLoS One. 2019 Jan 4;14(1):e0209196. PMID: 30608942
2. Effect of TRPV4 activation in a rat model of detrusor underactivity induced by bilateral pelvic nerve crush injury. Takaoka EI, Kurobe M, Okada H, Takai S, Suzuki T, Shimizu N, Kwon J, Nishiyama H, Yoshimura N, Chermansky CJ. Neurourol Urodyn. 2018 Nov;37(8):2527-2534. PMID: 30095183

3. Phospholipase D2 promotes disease progression of renal cell carcinoma through the induction of angiogenin. Kandori S, Kojima T, Matsuoka T, Yoshino T, Sugiyama A, Nakamura E, Shimazui T, Funakoshi Y, Kanaho Y, Nishiyama H. *Cancer Sci.* 2018 Jun;109(6):1865-1875. PMID: 29660846
4. Ramucirumab plus docetaxel versus placebo plus docetaxel in patients with locally advanced or metastatic urothelial carcinoma after platinum-based therapy (RANGE): a randomised, double-blind, phase 3 trial. Petrylak DP, de Wit R, Chi KN, Drakaki A, Sternberg CN, Nishiyama H, Castellano D, Hussain S, Fléchon A, Bamias A, Yu EY, van der Heijden MS, Matsubara N, Alekseev B, Necchi A, Géczi L, Ou YC, Coskun HS, Su WP, Hegemann M, Percent JJ, Lee JL, Tucci M, Semenov A, Laestadius F, Peer A, Tortora G, Safina S, Del Muro XG, Rodriguez-Vida A, Cicin I, Harputluoglu H, Widau RC, Liepa AM, Walgren RA, Hamid O, Zimmermann AH, Bell-McGuinn KM, Powles T; RANGE study investigators. *Lancet.* 2017 Nov 18;390(10109):2266-2277. PMID: 28916371
5. Development of RNA-FISH Assay for Detection of Oncogenic FGFR3-TACC3 Fusion Genes in FFPE Samples. Kurobe M, Kojima T, Nishimura K, Kandori S, Kawahara T, Yoshino T, Ueno S, Iizumi Y, Mitsuzuka K, Arai Y, Tsuruta H, Habuchi T, Kobayashi T, Matsui Y, Ogawa O, Sugimoto M, Kakehi Y, Nagumo Y, Tsutsumi M, Oikawa T, Kikuchi K, Nishiyama H. *PLoS One.* 2016 Dec 8;11(12):e0165109. PMID: 27930669
6. Biomarkers for precision medicine in bladder cancer. Kojima T, Kawai K, Miyazaki J, Nishiyama H. *Int J Clin Oncol.* 2017 Apr;22(2):207-213. PMID: 27896485

Ophthalmology

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Major Scientific Interests of the Group

To investigate quality of vision and life in patients with ocular diseases. To improve outcomes of ocular therapies especially surgical treatments.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Development of artificial vitreous and its clinical application
- 2) Comprehensive assessment and improvement of visual function in patients after cataract and vitreo-retinal surgery
- 3) Development of new generation of optical coherence tomography
- 4) Assessment of surgical outcomes of new intraocular lenses
- 5) Suppression of myopia progression in children
- 6) Establishment of infrastructure for artificial and big data study in ophthalmology
- 7) Development voltage-controlled accommodating intraocular lens

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

- 1) To learn the methods to comprehensively assess visual function of patients rather than visual acuity
- 2) To understand how to improve outcomes of cataract surgery using premium intraocular lenses

Selected Publications

- 1) Fukuda S, Fujita A, Kasaragod D, Beheregaray S, Ueno Y, Yasuno Y, Oshika T. Comparison of intensity, phase retardation, and local birefringence images for filtering blebs using polarization-sensitive optical coherence tomography. *Sci Rep* 2018;8(1):7519. doi: 10.1038/s41598-018-25884-w.
- 2) Oshika T, Inamura M, Inoue Y, Ohashi T, Sugita T, Fujita Y, Miyata K, Nakano S. Incidence and outcomes of repositioning surgery to correct misalignment of toric intraocular lenses. *Ophthalmology* 2018;125:31-35. doi: 10.1016/j.ophtha.2017.07.004.
- 3) Hayashi K, Okamoto F, Hoshi S, Katashima T, Zujur DC, Li X, Shibayama M, Gilbert EO, Chung U, Ohba S,

Oshika T, Sakai T: Fast-forming hydrogel with ultralow polymeric content as an artificial vitreous body. *Nature Biomedical Engineering* 1: 0044, 2017.

- 4) Fukuda S, Fujita A, Kasaragod D, Ueno Y, Hoshi S, Kishino G, Beheregaray S, Yasuno Y, Oshika T: Quantitative evaluation of phase retardation in filtering blebs using polarization-sensitive optical coherence tomography. *Invest Ophthalmol Vis Sci* 2016;57:5919-5925. doi: 10.1167/iovs.16-19548
- 5) Horiuchi T, Mihashi T, Fujikado T, Oshika T, Asaka K: Voltage-controlled accommodating IOL system using an ion polymer metal composite actuator. *Opt Express* 2016 Oct 3;24(20):23280-23288. doi: 10.1364/OE.24.023280.
- 6) Hoshi S, Okamoto F, Arai M, Hirose T, Fukuda S, Sugiura Y, Oshika T: Polyethylene glycol-based synthetic hydrogel sealant for closing vitrectomy wounds: An in vivo and histological study. *Transl Vis Sci Technol* 2016 May 17;5(3):7. eCollection 2016 May
- 7) Kasaragod D, Fukuda S, Ueno Y, Hoshi S, Oshika T, Yasuno Y: Objective evaluation of functionality of filtering bleb based on polarization-sensitive optical coherence tomography. *Invest Ophthalmol Vis Sci* 2016;57:2305-2310. doi: 10.1167/iovs.15-18178.
- 8) Ueno Y, Hiraoka T, Miyazaki M, Ito M, Oshika T: Corneal thickness profile and posterior corneal astigmatism in normal corneas. *Ophthalmology* 2015;122:1072-1078. doi: 10.1016/j.ophtha.2015.01.021. Epub 2015 Mar 11.
- 9) Hiraoka T, Kakita T, Okamoto F, Oshika T: Influence of ocular wavefront aberrations on axial length elongation in myopic children treated with overnight orthokeratology. *Ophthalmology* 2015;122:93-100. doi: 10.1016/j.ophtha.2014.07.042.
- 10) Okamoto F, Sugiura Y, Okamoto Y, Hiraoka T, Oshika T: Time course of changes in aniseikonia and foveal microstructure after vitrectomy for epiretinal membrane. *Ophthalmology* 2014;121:2255-2260. doi: 10.1016/j.ophtha.2014.05.016.

Optical Imaging (Computational Optics Group)

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Major Scientific Interests of the Group

Computational Optics Group (COG) is a joint group of Faculty of Clinical Medicine and Institute of Applied Physics. So, the COG's research interest covers wide spectrum including physical principle of optical imaging, instrumentation, image processing, and its pre-clinical and clinical applications. For clinical application COG is actively working for ophthalmic imaging and cosmetic science.

The key technology is optical coherence tomography (OCT) and optical coherence microscopy (OCM). Among OCT studies, OCG is characterized by its multi-functional extension Jones matrix OCT. It three-dimensionally visualizes, structure, flow, collagen integrity, melanin distribution, and mechanical property of a living tissue.

COG recently launched a new research-and-development project of functional OCM, which is, in technical perspective, the combination of OCT and holography. It enables simultaneous high-resolution (a few micrometer resolution) and deep depth-of-focus (a few millimeters). In addition, functional OCM visualizes very tiny tissue activity without any exogenous agent. We are currently working for its instrumentation and application development.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Instrumentation and translational research of OCT and OCM. It includes hardware development, signal/image processing, and its application to ophthalmology and microscopy.
- 2) Explorative investigation of new application of OCM.

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

- 1) Image processing of multi-functional OCT/OCM images.

Selected Publications

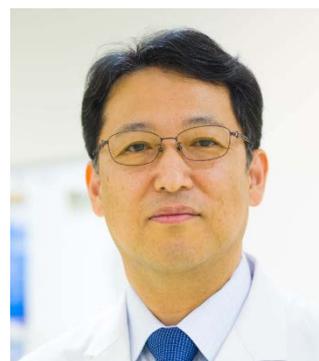
- 1) M. Miura, S. Makita, S. Azuma, et al., "Evaluation of Focal Damage in the Retinal Pigment Epithelium Layer in Serous Retinal Pigment Epithelium Detachment." *Scientific Reports* **9**, 3278. <https://doi.org/10.1038/s41598-019-39688-z>.
- 2) S. Makita, T. Mino, T. Yamaguchi et al. "Clinical Prototype of Pigment and Flow Imaging Optical Coherence Tomography for Posterior Eye Investigation." *Biomedical Optics Express* **9**, 4372–89.

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

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Pediatrics

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Major Scientific Interests of the Group

Physiologic and pathologic processes of growth and development in terms of molecular mechanism in embryogenesis, differentiation, apoptosis and regeneration. Development of methods to improve human health and control diseases on the basis of the above results.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Molecular and genetic mechanism of diseases of children.
- 2) Functional and quantitative analysis of the development of children with and without diseases.
- 3) Establishment of novel gene therapy.

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

- 1) Surface marker analysis of peripheral blood cells, and use of flow-cytometer for molecular functional analysis.
- 2) Genetic analysis of diseases of children.
- 3) Functional and quantitative analysis of child development.
- 4) Culture of stem cells and functional analysis of cord blood cells.
- 5) In vivo analysis using gene knockout mice.

Selected Publications

- 1) Flow cytometry-based diagnosis of primary immunodeficiency diseases. Kanegane H, Hoshino A, Okano T, Yasumi T, Wada T, Takada H, Okada S, Yamashita M, Yeh TW, Nishikomori R, Takagi M, Imai K, Ochs HD, Morio T. *Allergol Int.* 2018 Jan;67(1):43-54.
- 2) A nationwide survey of common viral infections in childhood among patients with primary immunodeficiency diseases. Nanishi E, Hoshina T, Takada H, Ishimura M, Nishio H, Uehara T, Mizuno Y, Hasegawa S, Ohga S, Nagao M, Igarashi M, Yajima S, Kusumoto Y, Onishi N, Sasahara Y, Yasumi T, Heike T, Hara T; PID-Infection Study Group. *J Infect.* 2016 Oct;73(4):358-68.
- 3) Immunoregulatory function of neonatal nucleated red blood cells in humans. Cui L, Takada H, Takimoto T, Fujiyoshi J, Ishimura M, Hara T. *Immunobiology.* 2016 Aug;221(8):853-61.
- 4) Insufficient immune reconstitution after allogeneic cord blood transplantation without chemotherapy conditioning in patients with SCID caused by CD3 δ deficiency. Takada H, Ishimura M, Hara T. *Bone Marrow Transplant.* 2016

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- 5) Invasive Bacterial Infection in Patients with Interleukin-1 Receptor-associated Kinase 4 Deficiency. Takada H, Ishimura M, Takimoto T, Kohagura T, Yoshikawa H, Imaizumi M, Shichijyou K, Shimabukuro Y, Kise T, Hyakuna N, Ohara O, Nonoyama S, Hara T. *Medicine (Baltimore)*. 2016 Jan;95(4):e2437.
- 6) Takimoto T, Takada H, Ishimura M, Kirino M, Hata K, Ohara O, Morio T, Hara T: Wiskott-Aldrich syndrome in a girl caused by heterozygous WASP mutation and extremely skewed X-chromosome inactivation: a novel association with maternal uniparental isodisomy 6. *Neonatology*, vol. 107, 185-190, 2015
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- 9) Hoshina T, Takada H, Sasaki-Mihara Y, Kusuhara K, Ohshima K, Okada S, Kobayashi M, Ohara O, Hara T: Clinical and host genetic characteristics of Mendelian susceptibility to mycobacterial diseases in Japan. *J Clin Immunol*, vol. 31, 309-314, 2011
- 10) Takada H, Nomura A, Ishimura M, Ichiyama M, Ohga S, Hara T: NEMO mutation as a cause of familial occurrence of Behçet's disease in female patients. *Clin Genet*, vol. 78, 575-579, 2010
- 11) Minegishi Y, Saito M, Nagasawa M, Takada H, Hara T, Tsuchiya S, Agematsu K, Yamada M, Kawamura N, Ariga T, Tsuge I, Karasuyama H: Molecular explanation for the contradiction between systemic Th17 defect and localized bacterial infection in hyper-IgE syndrome. *J Exp Med*, vol. 206, 1291-1301, 2009
- 12) Takada H, Ishimura M, Inada H, Ohga S, Kusuhara K, Moroi Y, Furue M, Hara T: Lipopolysaccharide-induced monocytic cell death for the diagnosis of mild neonatal-onset multisystem inflammatory disease. *J Pediatr*, vol. 152, 885-887, 2008

Maternal-Fetal Medicine

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Major Scientific Interests of the Group

- 1) Genetic basis of maternal-fetal medicine
- 2) Prenatal diagnosis and treatment of fetal diseases
- 3) Clinical management of maternal complications during pregnancy
- 4) Reproductive and developmental toxicology in the drugs

Projects for Regular Students in Doctoral or Master's Programs

- 1) Gene-environment interaction analysis of perinatal complications
- 2) Investigation into genetic predisposition of postpartum hemorrhage and hypertensive disorders of pregnancy

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

- 1) Study program in prenatal diagnosis (indications, methods, genetic counseling, and ethical issues)
- 2) Attendance the biweekly maternal-fetal medicine meeting

Selected Publications

- 1) Yamada T, Obata-Yasuoka M, **Hamada H**, Baba Y, Ohkuchi A, Yasuda S, Kawabata K, Minakawa S, et al.: Isolated gestational proteinuria preceding the diagnosis of preeclampsia - an observational study. **Acta Obstet Gynecol Scand**, 95(9), 1048-1054, 2016
- 2) Endo-Kawamura N, Obata-Yasuoka M, Yagi H, Ohara R, Nagai Y, Mayumi M, Abe K, **Hamada H**: Higher D-dimer level in the early third trimester predicts the occurrence of postpartum hemorrhage. **J Perinat Med**, 44(5), 551-556, 2016
- 3) Noguchi R, Abe K, **Hamada H**, Ogura T, Obata M, Miyazono Y, Yoshikawa H: Outcomes of patients with prenatally diagnosed agenesis of the corpus callosum in conjunction with ventriculomegaly. **Arch Gynecol Obstet**, 290(2), 237-242, 2014
- 4) Abe K, **Hamada H**, Yamada T, Obata-Yasuoka M, Minakami H, Yoshikawa H: Impact of planning of pregnancy in women with epilepsy on seizure control during pregnancy and on maternal and neonatal outcomes. **Seizure**, 23(2), 112-116, 2014
- 5) Obata-Yasuoka M, **Hamada H**, Yoshikawa H: Impaired glucose tolerance during pregnancy: Possible risk factor for vaginal/anorectal colonization by Group B Streptococcus. **J Obstet Gynaecol Res**, 38(9), 1233, 2012
- 6) Obata-Yasuoka M, **Hamada H**, Watanabe H, Shimura R, Toyoda M, Yagi H, Takeshima K, Abe K, et al.: Midtrimester termination of pregnancy by using gemeprost in combination with laminaria in women who have previously undergone cesarean section. **J Obstet Gynaecol Res**, 35(5), 901-905, 2009

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Major Scientific Interests of the Group

We conduct research on comprehensive clinical diagnosis of tumor and multidisciplinary therapy mainly including radiation therapy, aiming at improvement of treatment outcome and high quality of life of patients.

Projects for Regular Students in Doctoral or Master's Programs

1. Evaluation of radiation sensitivity and radiosensitization for treatment resistant tumors
2. Development of radiation treatment planning using several diagnostic imagings
3. Development of new cancer treatment using particle therapy

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

1. Clinical observation for advanced clinical research for radiation oncology, intensity modulated radiation therapy (IMRT), stereotactic radiation therapy (SRT), image guided high dose-rate brachytherapy, and proton therapy, hyperthermia
2. Attendance for multiple cancer board meetings
3. Translational research using basic techniques of radiation biology and medical physics

Selected Publications

1. Mizumoto M, Oshiro Y, Sakurai H: Significance of ICG test in radiotherapy for hepatocellular carcinoma. *Transl Cancer Res in press*:1-3.
2. Fukumitsu N, Okumura T, Sakurai H: Radiotherapy for liver cancer. *Journal of General and Family Medicine in press*:126-130.
3. Nakao T, Fukushima H, Fukushima T, Suzuki R, Hosaka S, Yamaki Y, Kobayashi C, Iwabuchi A, Imagawa K, Sakai A, Shinkai T, Masumoto K, Sakashita S, Masumoto T, Mizumoto M, Sumazaki R, Sakurai H: Interinstitutional patient transfers between rapid chemotherapy cycles were feasible to utilize proton beam therapy for pediatric Ewing sarcoma family of tumors. *Reports of practical oncology and radiotherapy : journal of Greatpoland Cancer Center in Poznan and Polish Society of Radiation Oncology* 2018;23:442-450.
4. Nakamura M, Fukumitsu N, Kamizawa S, Numajiri H, Murofushi KN, Ohnishi K, Aihara T, Ishikawa H, Okumura T, Tsuboi K, Sakurai H: A validated proton beam therapy patch-field protocol for effective treatment of large hepatocellular carcinoma. *Journal of Radiation Research* 2018;59:632-638.
5. Murofushi K, Kitamura N, Yoshioka Y, Sumi M, Ishikawa H, Oguchi M, Sakurai H: A Clinical Evaluation of American Brachytherapy Society Consensus Guideline for Bulky Vaginal Mass in Gynecological Cancer. *Int J Gynecol Cancer* 2018;28:1438-1445.

6. Mizumoto M, Murayama S, Akimoto T, Demizu Y, Fukushima T, Ishida Y, Oshiro Y, Numajiri H, Fuji H, Okumura T, Shirato H, [Sakurai H](#): Preliminary results of proton radiotherapy for pediatric rhabdomyosarcoma: a multi-institutional study in Japan. *Cancer Med* 2018;7:1870-1874.
7. Iwata H, Ishikawa H, Takagi M, Okimoto T, Murayama S, Akimoto T, Wada H, Arimura T, Sato Y, Araya M, Mizoe JE, Goshō M, Nakamura K, Shirato H, [Sakurai H](#): Long-term outcomes of proton therapy for prostate cancer in Japan: a multi-institutional survey of the Japanese Radiation Oncology Study Group. *Cancer Med* 2018;7:677-689.
8. Igaki H, Mizumoto M, Okumura T, Hasegawa K, Kokudo N, [Sakurai H](#): A systematic review of publications on charged particle therapy for hepatocellular carcinoma. *Int J Clin Oncol* 2018;23:423-433.
9. Fukumitsu N, Takahashi S, Okumura T, Ishida T, Murofushi K, Ohnishi K, Aihara T, Ishikawa H, Tsuboi K, [Sakurai H](#): Normal liver tissue change after proton beam therapy. *Jpn J Radiol* 2018;36:559-565.
10. Fukumitsu N, Okumura T, Hiroshima Y, Ishida T, Numajiri H, Murofushi KN, Ohnishi K, Aihara T, Ishikawa H, Tsuboi K, [Sakurai H](#): Simulation study of dosimetric effect in proton beam therapy using concomitant boost technique for unresectable pancreatic cancers. *Jpn J Radiol* 2018;36:456-461.
11. Tamura M, [Sakurai H](#), Mizumoto M, Kamizawa S, Murayama S, Yamashita H, Takao S, Suzuki R, Shirato H, Ito YM: Lifetime attributable risk of radiation-induced secondary cancer from proton beam therapy compared with that of intensity-modulated X-ray therapy in randomly sampled pediatric cancer patients. *J Radiat Res* 2017;58:363-371.

Anesthesiology

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Major Scientific Interests of the Group

Research topics in Anesthesiology include wide variety of physiology, anatomy, pharmacology, and autonomic neurology. In addition, alterations of physiological conditions caused by various kinds of surgical procedures extend scope of investigations from cardiovascular, respiratory, renal, endocrinology and neurological physiology to clinical pathophysiology.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Autonomic alterations due to various types of general and regional anesthesia
- 2) Taylor-made anesthesia and drug regimen
- 3) Alterations in neurophysiology in various types of stress, including pain
- 4) Global cerebral ischemia following resuscitation

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

- 1) Learn some of the fundamental autonomic testing
- 2) Investigate tissue preparations of cerebral ischemia and chronic pain models

Selected Publications

- 1) Nakayama S, et al. Glibenclamide and Therapeutic Hypothermia Have Comparable Effect on Attenuating Global Cerebral Edema Following Experimental Cardiac Arrest. *Neurocritical Care* 11; 1-9, 2017
- 2) Fukuda T, et al. Postoperative daily living activities of geriatric patients administered general or spinal anesthesia for hip fracture surgery: A retrospective cohort study. *Journal of Orthopaedic Surgery* 1; 1-9, 2018

Sports and Laboratory medical Lab

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Major Scientific Interests of the Group

Research for genetic diagnosis of Pheochromocytoma / Paraganglioma using patients' blood. The dynamics and molecular mechanisms of renalase that is monoamine oxidase and ligand effect during exercise. In addition, trying to clarify the role of each tissues.

Development for a detection method of anti-doping and conditioning markers on sport and exercise treatment through cell free DNA (cfDNA).

Projects for Regular Students in Doctoral or Master's Programs

- 1) Molecular mechanism of renalase in some cell lines such as myoblast and adipocyte.
- 2) Detect genetic doping such as myostatin that is related skeletal muscle hypertrophy and erythropoietin that is related aerobic capacity and blood transfusion doping.
- 3) Search for condition markers and its mechanisms using cfDNA on exercise

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

- 1) In vitro (myoblast, adipocyte, renal proximal tubule cells, human umbilical vein endothelial cells) assay (Various load: catecholamine, hypoxia, oxidative stress)

Selected Publications

- 1) Tokinoya K, Shiromoto J, Sugasawa T, Yoshida Y, Aoki K, Nakagawa Y, Ohmori H, Takekoshi K: Influence of acute exercise on renalase and its regulatory mechanism. *Life Sciences*, 210: 235-242, 2018.
- 2) Naruse M, Satoh F, Tanabe A, Okamoto T, Ichihara A, Tsuiki M, Katabami T, Nomura M, Tanaka T, Matsuda T, Imai T, Yamada M, Harada T, Kawata N, **Takekoshi K**: Efficacy and safety of metyrosine in pheochromocytoma/paraganglioma: a multi-center trial in Japan. *Endocr J*, 65(3):359-37, 2018.
- 3) Yoshida Y, Sugasawa T, Tokinoya K, Namba S, Takekoshi K: Epinephrine upregulates renalase expression in cultured C2C12 muscle cells, *International Journal of Analytical Bio-Science*, 5(4): 61-65. 2017.
- 4) Yoshida Y, Sugasawa T, Hoshino M, Tokinoya K, Ishikuram K, Ohmori H, Takekoshi K: Transient changes in serum renalase concentration during long-distance running: The case of an amateur runner under continuous training, *The Japanese Society of Physical Fitness and Sports Medicine*, 6(3): 159-166. 2017.
- 5) Shibata M, Inaishi T, Miyajima N, Adachi Y, Takano Y, Nakanishi K, Takeuchi D, Noda S, Aita Y, **Takekoshi K**, Koderia Y, Kikumori T: Synchronous bilateral pheochromocytomas and paraganglioma with novel germline mutation in MAX: a case report. *Surg Case Rep*, 28;3(1):131, 2017.
- 6) Saitoh K, Yonemoto T, Usui T, **Takekoshi K**, Suzuki M, Nakashima Y, Yoshimura K, Kosugi R, Ogawa T, Inoue T: Novel germline variant of *TMEM127* gene in a patient with familial pheochromocytoma. *Endocrinol Diabetes Metab Case Rep*, 2017.
- 7) Misu H, Takayama H, Saito Y, Mita Y, Kikuchi A, Ishii KA, Chikamoto K, Kanamori T, Tajima N, Lan F, Takeshita Y, Honda M, Tanaka M, Kato S, Matsuyama N, Yoshioka Y, Iwayama K, Tokuyama K, Akazawa N, Maeda S, **Takekoshi K**, Matsugo S, Noguchi N, Kaneko S, Takamura T: Deficiency of the hepatokine selenoprotein P

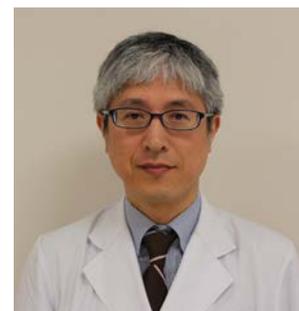
increases responsiveness to exercise in mice through upregulation of reactive oxygen species and AMP-activated protein kinase in muscle. *Nat Med*, 23(4):508-516, 2017.

Pharmaceutical Sciences

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Major Scientific Interests of the Group

Pharmacokinetic and pharmacogenetic analyses for evaluating drug disposition, drug-drug interactions, drug efficacy, and drug toxicity in relation to drug metabolizing enzymes and drug transporters. Pharmacokinetic evaluation of Kampo-medicine (herbal remedy).

Projects for Regular Students in Doctoral or Master's Programs

- 1) Pharmacokinetic analysis and therapeutic drug monitoring of anti-neoplastic agents, anti-arrhythmic agents, thrombopoietin receptor agonist and immunosuppressive agents
- 2) Pharmacogenetic analysis of anti-arrhythmic agents and immunosuppressive agents
- 3) Evaluation of adverse effect caused by Kampo-medicines containing licorice

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

- 1) Development of assay methods for monitoring blood drug concentration
- 2) Evaluation of genetic polymorphisms associated with drug metabolism and transport

Selected Publications

- 1) Doki K, Shirayama Y, Sekiguchi Y, Aonuma K, Kohda Y, **Homma M**. Optimal sampling time and clinical implication of the SCN5A promoter haplotype in propafenone therapeutic drug monitoring. **Eur J Clin Pharmacol**. 74: 1273-1279, 2018.
- 2) Ohgami M, Kaburagi T, Kurosawa A, Doki K, Shiozawa T, Hizawa N, **Homma M**. Effects of Proton Pump Inhibitor Coadministration on the Plasma Concentration of Erlotinib in Patients With Non-Small Cell Lung Cancer. **Ther Drug Monit**. 40: 699-704, 2018.
- 3) Ohgami M, Bando H, Ishiguro H, Tsuda M, Toriguchi N, Aogi K, Toi M, Masuda N, Mitsuhashi S, Kurosawa A, **Homma M**. Effect of dose timing on the blood concentration of lapatinib in patients with breast cancer. **Ann Oncol**. 28: 2888-2889, 2017.
- 4) Shimada S, Arai T, Tamaoka A, **Homma M**. Licorice-induced hypokalaemia in patients treated with Yokukansan preparations: identification of the risk factors in a retrospective cohort study. **BMJ Open**. 7: e014218, 2017.
- 5) Doki K, Sekiguchi Y, Kuga K, Aonuma K, **Homma M**. β 1-Adrenergic receptor Arg389Gly polymorphism affects the antiarrhythmic efficacy of flecainide in patients with coadministration of β -blockers. **Pharmacogenet Genomics**. 26: 481-485, 2016.
- 6) Doki K, Sekiguchi Y, Kuga K, Aonuma K, **Homma M**. Serum flecainide S/R ratio reflects the CYP2D6 genotype and changes in CYP2D6 activity. **Drug Metab Pharmacokinet**. 30: 257-62, 2015.
- 7) Suzuki Y, **Homma M**, Abei M, Hyodo I, Kohda Y. Effects of dipyridamole coadministration on the pharmacokinetics of ribavirin in healthy volunteers. **Drug Metab Pharmacokinet**. 28: 406-410, 2013.

Medical Informatics and Management

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Major Scientific Interests of the Group

- 1 Construction of Hospital Information System for Patient safety.
- 2 Protection and utilization of personal information in medical research
- 3 Total quality management in hospitals
- 4 Standardization of Medical Information System
- 5 EHR-based phenotyping

Projects for Regular Students in Doctoral or Master's Programs

Not Accepted now

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

- 1 Practical Management of Hospital Information System
- 2 Basic Utilization of Clinical Data Base

Selected Publications

- 1 **Furuta J.** Revision of Ethical Guidelines for Medical and Health Research for the purpose of responding to the revision of the Act on Protection of Personal Information. The Official journal of Japanese Society of Laboratory Medicine. 49: 71, 2018 (Japanese)
- 2 **Rina Kagawa**, Emiko Shinohara, Takeshi Imai, Yoshimasa Kawazoe, Kazuhiko Ohe: Bias of Inaccurate Disease Mentions in Electronic Health Record-based Phenotyping. International Journal of Medical informatics, in press
- 3 Naoki Nakajima, Mitsuhiro Noda, Kojiro Ueki, Tatsuhiko Koga, Michio Hayashi, Katsuya Yamazaki, Tomoko Nakagami, **Makoto Ohara**, Akira Gochi, Yasushi Matsumura, Michio Kimura, Kazuhiro Ohe, Dongchon Kang, Yoshiyuki Toya, Kunihiro Yamagata, Koutaro Yokote, Shunya Ikeda, Naohiro Mitsutake, Ryuichi Yamamoto, Yukio Tanizawa. Recommended Configuration for Personal Health Records by Standardized Data Item Sets for Diabetes Mellitus and Associated Chronic Diseases: Report of a Initiative by Six Japanese Associations. Diabetology International and Journal of Diabetes Investigation in press.
- 4 **Rina Kagawa**, Yoshimasa Kawazoe, Emiko Shinohara, Takeshi Imai, Kazuhiko Ohe: The impact of “possible patients” on phenotyping algorithms: Electronic phenotype algorithms can only be reproduced by sharing detailed annotation criteria. MEDINFO2017, Studies in health technology and informatics, 245, 432-436, 2017
- 5 Terasawa, Hiroko; Morimoto, Yota; Matsubara, Masaki; Sato, Akira; **Ohara, Makoto**; Kawarasaki, Masatoshi. GUIDING AUDITORY ATTENTION ONTO THE SUBTLE COMPONENTS IN ELECTROCARDIOGRAPHY SONIFICATION Proceedings of International Conference on Auditory Display. 7.2015

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Major Scientific Interests of the Group

We conduct research related to primary care and medical education, with the aim of improving quality of care and medical education.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Clinical research in primary care
- 2) Development of community-based medical system
- 3) Health promotion in the community
- 4) Clinical medical education

Selected Publications

- 1) Maeno T, Haruta J, Takayashiki A, Yoshimoto H, Goto R, Maeno T. Interprofessional education in medical schools in Japan. PloS one 14(1):e0210912, 2019
- 2) Kataoka Y, Takayashiki A, Sato M, Maeno T. Japanese regional-quota medical students in their final year are less motivated to work in medically underserved areas than they were in their first year: a prospective observational study. Rural Remote Health 18(4):4840 (Internet), 2018
- 3) Goto R, Watanabe H, Haruta J, Tsutsumi M, Yokoya S, Maeno T: Identification of prognostic factors for activities of daily living in elderly patients after hospitalization for acute infectious disease in Japan: A 6-month follow-up study. Geriatrics & gerontology international 18(4): 615-622, 2018
- 4) Haruta J, Yoshida K, Goto M, Yoshimoto H, Ichikawa S, Mori Y, Otsuka M. Development of an interprofessional competency framework for collaborative practice in Japan. Journal of Interprofessional Care 32(4) : 436-443, 2018
- 5) Hamano J, Takeuchi A, Yamaguchi T, et al. A combination of routine laboratory findings and vital signs can predict survival of advanced cancer patients without physician evaluation: a fractional polynomial model. Eur J Cancer : 105:50-60, 2018
- 6) Masumoto S, Sato M, Maeno T, Ichinohe Y, Maeno T : Potentially inappropriate medications with polypharmacy increase the risk of falls in older Japanese patients: 1-year prospective cohort study. Geriatrics and Gerontology International 18(7): 1064-1070, 2018
- 7) Yokoya S, Kizawa Y, Maeno T: Practice and Perceived Importance of Advance Care Planning and Difficulties in Providing Palliative Care in Geriatric Health Service Facilities in Japan: A Nationwide Survey. The American journal

of hospice & palliative Medicine 35(3):464-472, 2018

- 8) Isono H, Suzuki S, Ogura J, Haruta J, Maeno T. Improving the workflow of nursing assistants at a general hospital in Japan. *BMJ Open Qual* 6(2), e000106, 2017
- 9) Yoshimoto H, Takayashiki A, Goto R, Saito G, Kawaida K, Hieda R, Kataoka Y, Aramaki M, Sakamoto N, Maeno T, Kobayashi Y, Takemura YC. Association between Excessive Alcohol Use and Alcohol-Related Injuries in College Students: A Multi-Center Cross-Sectional Study in Japan. *The Tohoku Journal of Experimental Medicine* 242: 157-63, 2017
- 10) Ozone S, Shaku F, Sato M, Takayashiki A, Tsutsumi M, Maeno T: Comparison of blood pressure measurements on the bare arm, over a sleeve and over a rolled-up sleeve in the elderly. *Fam Pract* 33(5):517-22, 2016.
- 11) Ito M, Seo E, Ogawa R, Sanuki M, Maeno T, Maeno T. Can we predict future depression in residents before the start of clinical training? *Medical Education* 49:215-23, 2015

Medical Education

Principal Investigator Masayuki Masu

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Major Scientific Interests of the Group

- Planning of curriculum for medical students
- Institutional research of medical education
- Outcome evaluation of medical students
- Assessment in medical education

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

Not Available

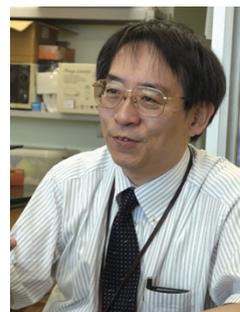
Selected Publications

1. [Haruta J](#), Yoshida K, Goto M, Yoshimoto H, Ichikawa S, Mori Y, Otsuka Mariko. Development of an interprofessional competency framework for collaborative practice in Japan. **J. interprof. care** 32(4), 436-443, 2018
2. Ogawa R, Seo E, Maeno T, Ito M, [Sanuki M](#), Maeno T. The relationship between long working hours and depression among first-year residents in Japan. **BMC Med Educ** 18(1), 50, 2018.
3. [Haruta J](#), Nishigori H, Kitamura K. How do healthcare professionals and lay people learn interactively? A case of transprofessional education. **Asia Pacific Sch.** 3(3), 1-7, 2017
4. [Haruta J](#), Breugelmans R, Nishigori H. Translation and cultural adaptation of the Japanese version of the interprofessional facilitation scale. **J. interprof. Care** 32(3), 321-328, 2018
5. Oishi A, [Haruta J](#), Yoshimi K, Goto M, Yoshida K, Yoshimoto H. Cross-cultural adaptation of the professional version of the Readiness for Interprofessional Learning Scale (RIPLS) in Japanese. **J. interprof. care** 31, 85-90, 2017
6. Goto M, [Haruta J](#), Oishi A, Yoshida K, Yoshimi K, Yoshimoto H, Takemura Y. A cross-sectional survey of interprofessional education across 13 healthcare professions in Japan. **Asia Pacific Sch.** 3(2), 38-46, 2018
7. [Haruta J](#), Sakai I, Otsuka M, Yoshimoto H, Yoshida K, Goto M, Shimoi, T. Development of an interprofessional competency framework in Japan. **J. Interprof. care** 30(5), 675-677, 2016

Molecular Sportology

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Major Scientific Interests of the Group

Westernization of diet and life habits and chronic inactivity have accelerated the obese population. Obesity is defined as being a condition in which the excessive energy is stored in the body as fat. Irrespective of organs and tissues, excessive fat accumulation impairs their structure and function; that is, ectopic adiposis. The rapid increase in the number of adult people with abnormal liver function associated with obesity is largely attributed to an increase in the incidence of non-alcoholic fatty liver disease (NAFLD). Any treatments with consensus other than diet restriction and exercise training are not useful for the prevention of onset and progression of NAFLD. The important thing is a practice of suitable amounts of exercise, since it maintains muscle volume, increases the utilization of glucose, and restores insulin sensitivity, all of which may contribute to a decrease in the hepatic fat accumulation levels.

In our laboratories, we aim at understanding; first, the onset and progression mechanism for NAFLD in obese subjects, and second, the beneficial effects of exercise training on the liver pathophysiology of NAFLD.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Understanding of the molecular mechanism for the onset and development of nonalcoholic steatohepatitis in terms of inter-organ communication (e.g., gut-liver axis).
- 2) Understanding of the molecular mechanism for the beneficial effects of exercise training on obesity, nonalcoholic steatohepatitis, and skeletal muscle mass loss.

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

Not available

Selected Publications

- 1) Akiyama K, Warabi E, Okada K, Shoda J. Deletion of both *p62* and *Nrf2* spontaneously leads to development of nonalcoholic steatohepatitis. *Experimental Animals* 67:201-18, 2018.
- 2) Shida T, Akiyama K, Oh S, Sawai A, Isobe T, Okamoto Y, Ishige K, Mizokami Y, Yamagata K, Onizawa K, Tanaka H, Iijima H, Shoda J. Skeletal muscle mass to visceral fat area ratio is an important determinant affecting pathophysiology of NAFLD. *J Gastroenterol* 53:535-47, 2018.
- 3) Oh S, Komine S, Warabi E, Horie M, Akiyama K, Ishii A, Miwa Y, Iwawaki T, Yamamoto M, Shoda J. Sulforaphane, a nuclear factor (erythroid derived 2)-like 2 activator remarkably increases exercise endurance capability through redox-modulation of skeletal muscles in mice. *Sci Rep* 7:12902, 2017.
- 4) Komine S, Akiyama K, Warabi E, Oh S, Kuga K, Ishige K, Togashi S, Yanagawa T, Shoda J. Exercise training enhances *in vivo* clearance of endotoxin and attenuates inflammatory responses by potentiating Kupffer cell phagocytosis. *Sci Rep* 7: 11977, 2017.

- 5) Oh S, Tanaka K, Chiaki K, Tsujimoto T, So R, Shida T, Shoda J. Moderate to vigorous physical activity volume is an important factor for managing nonalcoholic fatty liver disease: a retrospective study. *Hepatology* 61:1205-15, 2015.

Palliative Medicine

Principal Investigator Jun Hamano

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Other Faculty Members

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Major Scientific Interests of the Group

The scientific methods to improve the quality of life of patients and their families facing the problem associated with life-threatening illness.

Our research topics

- 1) Prognostic prediction for advanced cancer patients
- 2) Identification of palliative care needs with advanced illness patients and their family
- 3) Quality of palliative care in the community

Selected Publications

- 1) **Hamano J**, Takeuchi A, Yamaguchi T, et al. A combination of routine laboratory findings and vital signs can predict survival of advanced cancer patients without physician evaluation: a fractional polynomial model. *Eur J Cancer*. 2018;105:50-60.
- 2) **Hamano J**, Oishi A, Kizawa Y. Prevalence and characteristics of patients being at risk of deteriorating and dying in primary care. *J Pain Symptom Manage*. 2018.
- 3) **Hamano J**, Morita T, Mori M, et al. Prevalence and predictors of conflict in the families of patients with advanced cancer: A nationwide survey of bereaved family members. *Psychooncology*. 2018;27(1):302-308.
- 4) **Hamano J**, Morita T, Ikenaga M, et al. A Nationwide Survey About Palliative Sedation Involving Japanese Palliative Care Specialists: Intentions and Key Factors Used to Determine Sedation as Proportionally Appropriate. *J Pain Symptom Manage*. 2018;55(3):785-791.
- 5) **Hamano J**, Yamaguchi T, Maeda I, et al. Multicenter cohort study on the survival time of cancer patients dying at home or in a hospital: Does place matter? *Cancer*. 2016;122(9):1453-1460.
- 6) **Hamano J**, Morita T, Inoue S, et al. Surprise Questions for Survival Prediction in Patients With Advanced Cancer: A Multicenter Prospective Cohort Study. *Oncologist*. 2015;20(7):839-44.

Health Services Research

Principal Investigator Nanako Tamiya

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Major Scientific Interests of the Group

We assess and analyze the quality of various medical services (including nursing, health and welfare care) using the health services research method. Our goal is to improve the quality of services via outcome research through an interdisciplinary research approach. We use verified data to help realize the idea of medical care in harmony with life.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Useful regional indicators for the planning of long-term care projects (assistance): using claim data from the national long-term care system and others.
- 2) Verification of the method of linking medical care information and construction of logic and regional difference analysis of medical care
- 3) Study on factor analysis of healthy life expectancy and regional disparity and validation of health promotion measures

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

Part of the aforementioned projects 1) ~ 3)

Selected Publications

- 1) [Tamiya N](#), Noguchi H, Nishi A, Reich MR, Ikegami N, Hashimoto H, Shibuya K, Kawachi I, Campbell JC. Population ageing and wellbeing: lessons from Japan's long-term care insurance policy. *Lancet*. 2011; 378(9797):1183-92.
- 2) Mori T, Hamada S, Yoshie S, Jeon B, Jin X, Takahashi H, Iijima K, Ishizaki T, [Tamiya N](#). The Associations of Multimorbidity with the Sum of Annual Medical and Long-Term Care Expenditures in Japan. *BMC Geriatr*. (in press)
- 3) Kuroda N, Hamada S, Sakata N, Jeon B, Iijima K, Yoshie S, Ishizaki T, Jin X, Watanabe T, [Tamiya N](#). Antipsychotic use and related factors among people with dementia aged 75 years or older in Japan: a comprehensive population-based estimation using medical and long-term care data. *Int J Geriatr Psychiatry*. (in press)
- 4) Hamada S, Takahashi H, Sakata N, Jeon B, Mori T, Iijima K, Yoshie S, Ishizaki T, [Tamiya N](#). Household income relationship with health services utilization and healthcare expenditures in people aged 75 years or older in Japan: A population-based study using medical and long-term care insurance claims data. *J Epidemiol*. (in press)
- 5) Moriyama Y, [Tamiya N](#), Kawamura A, Mayers TD, Noguchi H, Takahashi H. Effect of short-stay service use on stay-at-home duration for elderly with certified care needs: Analysis of long-term care insurance claims data in Japan. *PLoS One*. 2018;13(8):e0203112.
- 6) Jeon B, [Tamiya N](#), Yoshie S, Iijima K, Ishizaki T. Potentially avoidable hospitalizations, non-potentially avoidable

hospitalizations and in-hospital deaths among residents of long-term care facilities. *Geriatr Gerontol Int.* 2018;18(8):1272-1279.

- 7) Yamaoka Y, Morisaki N, Noguchi H, Takahashi H, Tamiya N. Comprehensive Assessment of Risk Factors of Cause-Specific Infant Deaths in Japan. *J Epidemiol.* 2018;28(6):307-314.
- 8) Jin X, Tamiya N, Jeon B, Kawamura A, Takahashi H, Noguchi H. Resident and facility characteristics associated with care-need level deterioration in long-term care welfare facilities in Japan. *Geriatr Gerontol Int.* 2018;18(5):758-766.
- 9) Mori T, Tamiya N, Jin X, Jeon B, Yoshie S, Iijima K, Ishizaki T. Estimated expenditures for hip fractures using merged healthcare insurance data for individuals aged ≥ 75 years and long-term care insurance claims data in Japan. *Arch Osteoporos.* 2018;13(1):37.
- 10) Sugiyama T, Tamiya N, Watanabe T, Wakui T, Shibayama T, Moriyama Y, Yamaoka Y, Noguchi H. Association of care recipients' care-need level with family caregiver participation in health check-ups in Japan. *Geriatr Gerontol Int.* 2018;18(1):26-32.

Clinical Trial and Clinical Epidemiology

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Major Scientific Interests of the Group

Clinical trial and clinical epidemiology have been evolved in modern medicine. That helps to understand the conceptual gaps between structured experience of basic science and the more complex, open-ended problems arising for the care of patients. Based on the principals of clinical trials and the use of clinical epidemiology, we tried to provide the evidence towards improving the care of the patients.

Projects for Regular Students in Doctoral or Master's Programs

- 1) The members of our research group take challenges on the development and application of epidemiologic techniques and provide relevant evidences for diagnosis, treatment and prevention.
- 2) Biostatistics is applied statistics for medical and biological research, and aims to develop, apply, advice on statistical methodology for study design and data analysis in the research.

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

- 1) The Department provides the environment to learn the principles of clinical epidemiology through practical implementation of researches.
- 2) The Department also provides an environment to pursue research and education in biostatistics. The research in the department is categorized by methodology and practice.

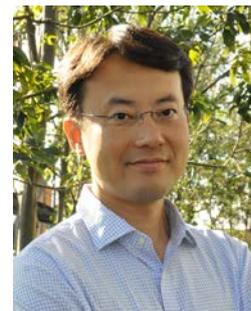
Selected Publications

- 1) Ferdous F, Ma E, Raqib R, Wagatsuma Y. Birth weight influences the kidney size and function of Bangladeshi children. *J Dev Orig Health Dis*. 2017 Dec 17:1-9.
 - 2) Tafida MA, Wagatsuma Y, Ma E, Mizutani T, Abe T. Descriptive epidemiology of traumatic spinal injury in Japan. *J Orthop Sci*. 2018 Mar;23(2):273-276.
 - 3) Rashid H, Ma E, Ferdous F, Ekström EC, Wagatsuma Y. First-trimester fetal growth restriction and the occurrence of miscarriage in rural Bangladesh: A prospective cohort study. *PLoS One*. 2017 Jul 21;12(7):e0181967.
 - 4) Raqib R, Ahmed S, Ahsan KB, Kippler M, Akhtar E, Roy AK, Lu Y, Arifeen SE, Wagatsuma Y, Vahter M. Humoral Immunity in Arsenic-Exposed Children in Rural Bangladesh: Total Immunoglobulins and Vaccine-Specific Antibodies. *Environ Health Perspect*. 2017 Jun 14;125(6):067006.
 - 5) Saito N, Sugiyama K, Ohnuma T, Kanemura T, Nasu M, Yoshidomi Y, Tsujimoto Y, Adachi H, Koami H, Tochiki A, Hori K, Wagatsuma Y, Matsumoto H. Efficacy of polymyxin B-immobilized fiber hemoperfusion for patients with septic shock caused by Gram-negative bacillus infection. *PLoS One*. 2017 Mar 30;12(3):e0173633.
 - 6) Yamaguchi Y, Misumi T, Maruo K. A comparison of multiple imputation methods for incomplete longitudinal binary data. *Journal of Biopharmaceutical Statistics*. 2017 DOI: 10.1080/10543406.2017.1372772
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- 7) Goshi M, Maruo K, Tada K, Hirakawa A. Utilization of chi-square statistics for screening adverse drug-drug interactions in spontaneous reporting systems. *European Journal of Clinical Pharmacology*. 2017; 73: 779-786.
 - 8) Maruo K, Yamaguchi Y, Noma H, Goshi M. Interpretable inference on the mixed effect model with the Box-Cox transformation. *Statistics in Medicine* 2017; 36: 2420-2434.
 - 9) Shimura M, Goshi M, Hirakawa A. Comparison of conditional bias-adjusted estimators for interim analysis in clinical trials with survival data. *Statistics in Medicine* 2017; 36: 2067-2080.
 - 10) Sato Y, Goshi M, Nagashima K, Takahashi S, Ware JM, Laird NM. Statistical Methods in the Journal — an update. *New England Journal of Medicine* 2017; 376: 1086-1087.
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Global Public Health

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Major Scientific Interests of the Group

“The existing gross inequality in the health status of the people, particularly between developed and developing countries as well as within countries, is politically, socially, and economically unacceptable and is, therefore, of common concern to all countries.” (The Declaration of Alma-Ata, September 1978) With this statement in mind, we are conducting action- and problem-oriented researches in the various fields of public health using epidemiological and statistical methods. Making change happen is difficult but we believe it is possible through scientifically sound researches.

Projects for Regular Students in Doctoral or Master’s Programs

Intervention and observation studies in various fields of epidemiology including injury, nutrition, mental health, and emergency medicine

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

Not available

Selected Publications

- 1) Ichikawa M, Inada H, Nakahara S. Effect of a cognitive test at license renewal for older drivers on their crash risk in Japan. *Inj Prev*. 2019 Mar 30. pii: injuryprev-2018-043117.
- 2) Ichikawa M, Nakahara S, Inada H. Impact of mandating a driving lesson for older drivers at license renewal in Japan. *Accid Anal Prev*. 2015 Feb;75:55-60.
- 3) Ichikawa M, Nakahara S, Taniguchi A. Older drivers' risks of at-fault motor vehicle collisions. *Accid Anal Prev*. 2015 Aug;81:120-3.
- 4) Ichikawa M, Gerelmaa G, Nakahara S. Call for more translational research in burn injury prevention. *Burns*. 2019 Feb;45(1):255-256.
- 5) Gerelmaa G, Tumen-Ulzii B, Nakahara S, Ichikawa M. Patterns of burns and scalds in Mongolian children: a hospital-based prospective study. *Trop Med Int Health*. 2018 Mar;23(3):334-340.
- 6) Hori A, Wada K, Smith DR. A Socio-Demographic Examination of Adults Responding to Governmental Vaccination Recommendations during the Japanese Rubella Outbreak of 2013. *PLoS One*. 2015 Jun 9;10(6):e0129900.
- 7) Hori A, Kasai H, Kawai K, Nanri A, Sato M, Ohta M, Mizoue T. Coffee intake is associated with lower levels of oxidative DNA damage and decreasing body iron storage in healthy women. *Nutr Cancer*. 2014;66(6):964-9.

Health Care Policy and Health Economics

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Major Scientific Interests of the Group

The application of economics and other social sciences for health care policy & health policy in order to improve the health of populations around the world.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Health care financing in Nepal in the era of Universal Health Coverage
- 2) Characteristics of hospital care in Japan
- 3) Economic evaluation of immunisation programmes in Japan

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

- 1) An application of economics for health care policy. A topic is to be decided on demand basis by negotiation.

Selected Publications

- 1) Hoshi SL, Seposo X, Okubo I, Kondo M. Cost-effectiveness analysis of pertussis vaccination during pregnancy in Japan. *Vaccine*. 36(34):5133-5140, 2018.
- 2) Shono A, Kondo M, Hoshi SL, Okubo R, Yahagi N. Cost-effectiveness of a New Opportunistic Screening Strategy for Walk-in Fingertip HbA1c Testing at Community Pharmacies in Japan. *Diabetes Care*. 41(6):1218-1226, 2018.
- 3) Ghimire M, Ayer R, Kondo M. Cumulative incidence, distribution, and determinants of catastrophic health expenditure in Nepal: results from the living standards survey. *Int J Equity Health*. 17(1):23, 2018.
- 4) Shono A, Kondo M. Mothers' preferences regarding new combination vaccines for their children in Japan, 2014. *Hum Vaccin Immunother*. 13(4):766-771, 2017.
- 5) Okubo R, Kondo M, Hoshi SL, Yamagata K. Cost-effectiveness of obstructive sleep apnea screening for patients with diabetes or chronic kidney disease. *Sleep Breath*. 19(3):1081-92, 2015.
- 6) Shono A, Kondo M, Ohmae H, Okubo I. Willingness to pay for public health services in rural Central Java, Indonesia: methodological considerations when using the contingent valuation method. *Soc Sci Med*. 110:31-40, 2014.
- 7) Kondo M, Yamagata K, Hoshi SL, Saito C, Asahi K, Moriyama T, Tsuruya K, Konta T, Fujimoto S, Narita I, Kimura K, Iseki K, Watanabe T. Budget impact analysis of chronic kidney disease mass screening test in Japan. *Clin Exp Nephrol*. 18(6):885-91, 2014.
- 8) Kato N, Kondo M, Okubo I, Hasegawa T. Length of hospital stay in Japan 1971-2008: hospital ownership and cost-containment policies. *Health Policy*. 115(2-3):180-8, 2014.

Nursing Science and Engineering

Principal Investigator Hisayo Okayama R.N., N.M., Ph.D.

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Major Scientific Interests of the Group

In the current medical care system, evidence-based medical practice is considered as the standard. Evidence-based practice of nursing is also required in the area of nursing. Our research group aimed to evaluate nursing practice objectively and investigate its safety and evidence of such safety by conducting a research that integrated medicine, science and, engineering. Further, we developed new technology and equipment by focusing on clinical needs, heeding the medical staff's voices such as *we could provide better care if certain equipment was available*. Our research has been guided by a respect for the viewpoints of clients, particularly those of women and children.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Verification of a pelvic floor muscle training for a female pelvis bottom functional disorder
- 2) Change of female hormone and the quantitative evaluation of a cerebral blood flow
- 3) Research on the mental health of a maternal period, and the women's health nursing
- 4) Relationship between nursing practice and intelligence activities

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

- 1) Study of Nursing Science and Engineering
- 2) Study of mental health of a maternal period, and the women's health nursing

Selected Publications

- 1) Okayama H, Ninomiya S, Naito K, Endo Y, Morikawa S. Effects of wearing supportive underwear versus pelvic floor muscle training or no treatment in women with symptoms of stress urinary incontinence: an assessor-blinded randomized control trial. *Int Urogynecol J*. 2019 Jan 9. DOI: 10.1007/s00192-018-03855-z.
- 2) Ninomiya S, Naito K, Nakanishi K, Okayama H: Prevalence and risk factors of urinary incontinence and overactive bladder in Japanese women. *Lower Urinary Tract Symptoms*, 2017 Aug 1. 1-7, DOI: 10.1111/luts.12185
- 3) Ninomiya S, Saito I, Masaki K, Endo Y, Morikawa S, Okayama H: Single-Arm Pilot Study to Determine the Effectiveness of the Support Power of Underwear in Elevating the Bladder Neck and Reducing Symptoms of Stress Urinary Incontinence in Women. *Lower Urinary Tract Symptoms*, 6(2), 2014, 81–87, DOI: 10.1111/lits.12023.
- 4) Asano Y, Kawaguchi T: Preliminary study of effect of readiness on circulatory regulation when standing up from low chair. *Journal of Nursing Science and Engineering*, 2(3)180-187, 2015.
- 5) Mizuno M, Asano Y, Sumi T, Inoue Y: Adaptation Status and Related Factors at 2 Time Points After Surgery in Patients With Gastrointestinal Tract Cancer. *Cancer Nursing*, 34(1), 41-48, 2011.
- 6) Asano Y: Air Change Rate near Patient Model in Unidirectional Airflow of Biological Clean Room: An Experimental Study. *Erozoru Kenkyu*, 24(1), 30-38, 2009

Oncology Nursing

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Major Scientific Interests of the Group

The main research topic of our team is the quality of life and physical and psychological wellbeing in cancer patients/survivors. We are trying to test the effect of support for cancer survivors' self-management.

Projects for Regular Students in Doctoral or Master's Programs

- 1) Quality of Life of Cancer Patients
- 2) Palliative Care and Spiritual Care for Cancer Patients

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

Preparation in progress

Selected Publications

- 1) M. Mizuno: The changes and strategies adopted by the public health services and medical society in Japan. In Z. Lin (Eds.), *Asian Voices: Asian and Asian American health educators speak out*. Jones and Bartlett MA, 146-167, 1999
- 2) M. Mizuno, C. Onishi, F. Ouishi: Truth Disclosure of Cancer Diagnoses and Its Influence on Bereaved Japanese Families. *Cancer Nursing*, Vol.25, 396-403, 2002
- 3) M. Mizuno, H. Arita, M. Kakuta: Needs of Ambulatory Patients with Cancer Who Visited Outpatient Units in Japanese Hospitals. *Oncology Nursing Forum*, Vol.32, E63-E69, 2005
- 4) M. Mizuno, M. Kakuta, Y. Ono, A. Kato, Y. Inoue: Colorectal Cancer Patients' Perceptions of and Attitudes Toward Experiences During the First Six Months After Surgery. *Oncology Nursing Forum*, Vol.34, 2007
- 5) M. Mizuno, M. Kakuta, Y. Ono, A. Kato, Y. Inoue: Sense of Coherence, Demands of Illness, and Social Support Affects Quality of Life after Surgery in Patients with Gastrointestinal Tract Cancer. *Oncology Nursing Forum*, Vol.36, (p.E1-E9) 2009
- 6) M. Mizuno, Y. Asano, T. Sumi, Y. Inoue: Adaptation Status and Related Factors at 2 Time Points After Surgery in Patients with Gastrointestinal Tract Cancer. *Cancer Nursing*. Vol. 34: 41-48, 2011.
- 7) M. Mizuno, J. Kataoka, F. Oishi: Relationship between the Physical and Psychosocial Conditions of Postoperative Gastrointestinal Cancer Patients and their Responses to an Informational Material, *Asia-Pacific Journal of Oncology Nursing*, 4(1), 53-60, 2017.
- 8) M. Mizuno, J. Kataoka, F. Oishi: Longitudinal Study on Quality of Life and Psychosocial Conditions in Light of Responses to Illness-Related Information in Postoperative Cancer Patients, *Asia-Pacific Journal of Oncology Nursing*, 5(2) 208-206, 2017.
- 9) M. Mizuno, K. Sugimoto, T. Mayers, & C. E. Ferrans: Ensuring Cultural and Cognitive Integrity in Instrument Translation: Quality of Life Index for Japanese Cancer Patients. *Asia-Pacific Journal of Oncology Nursing*, 6(1) 64-71 13, 2018.

Psychiatric and Mental Health Nursing

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Major Scientific Interests of the Group

1. Rehabilitation Nursing for Patients with Mental Health disorders
2. Nursing Care for Drug and Alcohol Addicts
3. Study on Nursing for Eating Disorders
4. Child and Adolescent Psychiatric Nursing
5. Nursing Education

Projects for Regular Students in Doctoral or Master's Programs

- 1) Nursing intervention program for people with mental disorders
- 2) Development of psychological scale on nursing
- 3) Concepts and theories on psychiatric and mental health nursing
- 4) Investigation of current situation concerning psychiatric and mental health nursing

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

- 1) Critique and discussion on psychiatric and mental health nursing papers and research

Selected Publications

- 1) **Sugaya T, Mori C.** A Study of Self-esteem in Junior High School Students with Mental Disorders: Relationship between social skills and sense of belonging. **Clinical Psychiatry**, 60, 1283-1292, 2018.
- 2) Nakatani S, **Mori C.** Relationship Between Nurses' Communication Skills and Their Self-Efficacy and Professional Autonomy. **Journal of Japan Society of Nursing Research**, 41(2), 171-183, 2018.
- 3) Fukuta D, **Mori C.** Intervention program to improve executive functions and enhance planning abilities of patients with mild cognitive disorder. **Rehabilitation Nursing**, 2018.
- 4) Tanaka R, **Mori C.** Evaluating the Efficacy of a Program for Increasing Self-Efficacy in Methamphetamine Psychotic In-Patients. **Japan Journal of Study in Addiction Nursing**, 15(2), 3-12, 2018.
- 5) Adachi H, **Mori C.** Structure of stress management in the elderly with depression. **Journal of Academy of Nursing Education Research**, 10(1), 3-15, 2018.
- 6) Sugawara H, **Mori C.** The self-concept of person with chronic schizophrenia in Japan. **Neuropsychopharmacology Reports**, 2018
- 7) Sumi T, **Mori C.** Developing an ethical sensitivity scale for clinical nurses, and reviewing its reliability and adequacy. **Journal of Japanese Nursing Ethics**, 10(1), 36-44, 2018.
- 8) Sato R, **Sugaya T, Mori C.** Feelings to Emotional Expression of Nurses in Medical Treatment and Supervision Act Ward: By interviews after Training Utilizing Emotion. **Journal of Practical Human Service**, 9, 33-40, 2018.
- 9) **Sugaya T, Mori C.** Interpersonal Relations and the Sense of Belonging in Junior High School Students with Mental Disorders. **Japanese Journal of Child and Adolescent Psychiatry**, 59(1), 86-99, 2018.
- 10) Omori Y, **Mori C**, White A H. Self-Stigma in Schizophrenia: A Concept Analysis. **Nursing Forum**, 49(4), 259-266, 2014.

International Community Care and Lifespan Development: Empowerment Sciences

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Major Scientific Interests of the Group

- 1) Community empowerment
- 2) Plasticity of lifespan development and implications
- 3) System sciences for health social services

Projects for Regular Students in Doctoral or Master's Programs

- 1) Cross-Cultural Perspectives on Community Care and Health-Social Services
- 2) Lifespan Development and Environment
- 3) Health Promotion and Community Empowerment
- 4) Child and Elderly Abuse Prevention
- 5) Human Interface with Universal Design: Artificial Intelligence, Assistive devices, Housing, and Community Environments

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

- 1) Cross-Cultural Perspectives on Community Care and Health-Social Services
- 2) Health Promotion and Community Empowerment

Selected Publications

- 1) Empowerment science for professionals enhance inclusion and a world of possibilities, Nihon Shoni iji Shuppansyuh, 2018
- 2) Cunyoen Kim, Bailiang Wu, Emiko Tanaka, Taeko Watanabe, Kumi Watanabe, Wencan Chen, Sumio Ito, Rika Okumura, Tetsuaki Arai, Anme Tokie, Association between a Change in Social Interaction and Dementia among Elderly People, International Journal of Gerontology, 2016
- 3) Yusuke Takahashi, Kensuke Okada, Takahiro Hoshino, Tokie Anme, Developmental Trajectories of Social Skills during Early Childhood and Links to Parenting Practices in a Japanese Sample, PLOS ONE, 2015
- 4) Lian Tong, Ryoji Shinohara, Yuka Sugisawa, Emiko Tanaka, Taeko Watanabe, Tokie Anme, The buffering effect of parental engagement on the relationship between corporal punishments and children's emotional/behavioral problems, Pediatrics International, 2015
- 5) Culture, Care and Community Empowerment: International Applications of Theory and Methods, Kawashima Press, 2008

Public Health and Public Health Nursing

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Other Faculty Members

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Major Scientific Interests of the Group

Researches on public health, public health nursing, epidemiology, occupational health and school health

Projects for Regular Students in Doctoral or Master's Programs

- 1) Epidemiological research on lifestyle-related diseases, especially cardiovascular disease and stroke
- 2) Long-term conducting cohort surveys and surveillances
- 3) Practical activities of disease prevention, such as health education

Selected Publications

- 1) Sankai T, Yamagishi K, Matsumura T, Iso H. Trends in Five-Year Survival Rates in Elderly People after Cerebral Stroke from 1981 to 2010 in a Japanese Rural Community. *The Asian Journal of Disable Sociology* 2017; 16:1-9.
- 2) Jinnouchi H, Kitamura A, Yamagishi K, Kiyama M, Imano H, Okada T, Cui R, Umesawa M, Muraki I, Hayama-Terada M, Kawasaki R, Sankai T, Ohira T, Iso H; for the CIRCS Investigators. Retinal vascular changes and prospective risk of disabling dementia: the Circulatory Risk in Communities Study (CIRCS). *J Atheroscler Thromb* 2017; 48:253-258.
- 3) Kitamura A, Yamagishi K, Imano H, Kiyama M, Cui R, Ohira T, Umesawa M, Muraki I, Sankai T, Saito I, Iso H; for the CIRCS Investigators. Impact of hypertension and subclinical organ damages on the incidence of cardiovascular disease among Japanese residents at the population and individual levels: The Circulatory Risk in Communities Study (CIRCS). *Circ J* 2017; 81:1022-1028.
- 4) Hori M, Kitamura A, Kiyama M, Imano H, Yamagishi K, Cui R, Umesawa M, Muraki I, Okada T, Sankai T, Ohira T, Saito I, Tanigawa T, Iso H; for the CIRCS Investigators. Fifty-year time trends in blood pressures, body mass index and their relations in a Japanese community: The Circulatory Risk in Communities Study (CIRCS). *J Atheroscler Thromb* 2017; 24:518-529.
- 5) Hayama-Terada M, Muraki I, Imano H, Kiyama M, Okada T, Yamagishi K, Cui R, Ohira T, Umesawa M, Sankai T, Sato S, Kitamura A, Iso H; for the CIRCS Investigators. Diabetes trends and impact on risk of cardiovascular disease in middle-aged Japanese people: the CIRCS Study. *Circ J* 2016; 80:2343-2348.
- 6) Kitamura A, Sankai T, Konishi M, Sato S, Imano H, Ohira T, Naito Y, Iso H, Tanigawa T, Yamagishi K, Saito M, Kishi M, Yamazaki T, Iida M, Shimamoto T. Trends for stroke incidence, severity, and prognosis in a rural community with a long-term stroke prevention program. *Jpn J Pub H* 2004;51:3-12. (in Japanese)
- 7) Sankai T, Iso H, Shimamoto T, Kitamura A, Naito Y, Sato S, Okamura T, Imano H, Iida M and Komachi Y. Prospective study on alcohol intake and risk of subarachnoid hemorrhage among Japanese men and women. *Alcoholism: Clin Experiment Res* 2000; 24:386-389.
- 8) Sankai T, Iso H, Shimamoto T, Kitamura A, Naito Y, Sato S, Okamura T, Imano H, Iida M, Komachi Y. Cohort study on risk factors for subarachnoid hemorrhage among Japanese men and women. *Jpn J Hyg* 1999; 53:587-595. (in Japanese)
- 9) Sanaki T, Iso H, Imano H, Ohira T, Tanigawa T, Shimamoto T, Kitamura A, Sato S, Naito Y, Kiyama M, Okamura

- T, Nakagawa Y, Iida M, Komachi Y. Survival and disability in stroke by stroke subtype based on computed tomographic findings in three rural Japanese communities. *Jpn J Pub H* 1998; 45:536-551. (in Japanese)
- 10) Kitamura A, Iso H, Sankai T, Naito Y, Sato S, Kiyama M, Okamura T, Nakagawa N, Iida M, Shimamoto T, Komachi Y. Alcohol intake and premature coronary heart disease in urban Japanese men. *Am J Epidemiol* 1998; 147:59-65.
 - 11) Sankai T, Iso H, Shimamoto T, Kitamura A, Naito Y, Sato S, Kiyama M, Iida M, Komochi Y. Changes in cardiovascular risk factors related with menopause in rural Japanese women. *J Epidemiol* 1995; 5:23-28.
 - 12) Sankai T, Iso H, Shimamoto T, Miyagaki T, Iida M, Tanigaki M, Naito Y, Sato S, Kiyama M, Kitamura A, Konishi M, Terao A, Doi M, Kojima S, Komachi Y. A nested case-control study of risk factors for intracerebral hemorrhage and cerebral infarction classified by computed tomographic findings. *Jpn J Pub H* 1992; 39:410-420. (in Japanese)
 - 13) Sankai T, Miyagaki T, Iso H, Shimamoto T, Iida M, Tanigaki M, Naito Y, Sato S, Kiyama M, Kitamura A, Konishi M, Terao A, Doi M, Komachi Y. A population-based study of the proportion by type of stroke determined by computed tomography scan. *Jpn J Pub H* 1991; 38:901-909. (in Japanese)

Global Health Nursing

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Major Scientific Interests of the Group

Clinical Nurse Leader, Respectful maternity care, Primary Health Care

Projects for Regular Students in Doctoral or Master's Programs

1. Nursing Leadership
2. Safety and Quality of care; Process improvement
3. Palliative Care
4. Postpartum depression; Posttraumatic stress
5. Respectful maternity care; “WHO recommendations: intrapartum care for a positive childbirth experience”
6. Nursing support for foreign patients; cultural competency

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

1. Global health leadership program for nurses

Selected Publications

- 1) **Katsumata, A.T.** Why diversity is critical in nursing workforce? 28(8), 688-691. (2018).
- 2) Chikada, A., **Katsumata, A.T.**, Asase, M., Takenouchi, S., Arakawa, Y., and Nin, K. Lived experience in patients with recurrent glioblastoma in Japan: A narrative study. *Asian/Pacific Island Nursing Journal*, 2(4), 157-165.
- 3) **Sugimoto, K.** Pelvic examinations during labour and delivery. *The Japanese Journal for Midwives*, 72(12), 948-949. (2018).
- 4) **Sugimoto, K.** Vaginal cleansing during labour and delivery. *The Japanese Journal for Midwives*, 72(12), 950-951. (2018).
- 5) Bohren, M.A., Hofmeyr, G.J., Sakala, C., **Fukuzawa, R.K.**, and Cuthbert, A. Continuous support for women during childbirth. *Cochrane Database of Systematic Reviews*, Issue 7. Art. No.: CD003766. DOI: 10.1002/14651858.CD003766.pub6. (2017).
- 6) **Fukuzawa, R.K.** & Kondo, K.T. A holistic view from birth to the end of life: end-of-life doulas and new developments in end-of-life care in the West. *International Journal of Palliative Nursing*, 23, 12, 612-619. (2017).
- 7) **Togoobaatar Ganchimeg**, Chie Nagata, Joshua P. Vogel, et al. Optimal timing of delivery among low-risk women with prior caesarean section: a secondary analysis of the WHO multi-country survey on maternal and newborn health. *PLoS One* 11(2): e0149091, (2016).
- 8) **Fukuzawa, R.K.** and Kodate, N. Chapter 8: Japan. In *Maternity Services and Policy in an International Context: Risk, Citizenship and Welfare Regimes*. (Eds.) Kennedy, P. and Kodate, N. Routledge. UK. pp. 153-178. (2015).
- 9) **T Ganchimeg**, R Mori, E Ota, et al. Maternal and perinatal outcomes among nulliparous adolescents in low- and middle-income countries: a multi-country study. *BJOG*. 120(13): 1622-30; (2014).
- 10) **T Ganchimeg**, E Ota, N Morisaki, et al. Pregnancy and childbirth outcomes among adolescent mothers: a World Health Organization multicountry study. *Bjog-Int J Obstet Gy.* Vol. 121, 40-48, (2014).

- 11) **T Ganchimeg**, N Morisaki, JP Vogel, et al. Mode and timing of twin delivery and perinatal outcomes in low- and middle- income countries: a secondary analysis of the WHO Multicountry Survey on Maternal and Newborn Health. *Bjog-Int J Obstet Gy.* Vol. 121, 89-100, (2014).
- 12) **Sugimoto, K.** Social support, posttraumatic stress, and postpartum depressive symptomatology among Japanese women. Doctoral dissertation in nursing science, University of Illinois at Chicago. (2013).
- 13) **Katsumata, A.T.** The reverence for life movement - A community-based primary health care movement in Kumamoto, Japan. Doctoral dissertation in nursing science, University of Illinois at Chicago. (2011).

Rehabilitation Nursing, Chronic illness care

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URL Preparation in progress



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Major Scientific Interests of the Group

- 1) Rehabilitation Nursing
- 2) Chronic Illness Care
- 3) Nursing Skill
- 4) Nursing Education
- 5) Occupational Health Nursing

Projects for Regular Students in Doctoral or Master's Programs

- 1) Oral self-management behaviors in patients with type 2 diabetes
- 2) Fatigue in patients with multiple sclerosis

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

Preparation in progress

Selected Publications

- 1) Shibayama T, Tanha S, Abe Y, Haginoya H, and Rajab A, Hidaka K. The role of illness schemata in self-care behaviors and glycemic control among patients with type 2 diabetes in Iran. Prim Care Diabetes. 2019. [Epub ahead of print]
- 2) Kuramoto N, Suzuki K, Watanabe S, and Hidaka K. Mealtime assistance and caregivers' frequency of checking the residents in nursing homes: a questionnaire survey. Jpn J Compr Rehabil Sci, 9: 34-42, 2018.
- 3) Nakamura K, Abe Y, Shibayama T, and Hidaka K. Required support • An examination of the subjective quality of life and related factors in elderly people with a high functional capacity who need mild care. Nihon Ronen Igakkai Zasshi, 55(2): 276-283, 2018.
- 4) Shibayama T, Noguchi H, Takahashi H and Tamiya N. Relationship between social engagement and diabetes incidence in a middle-aged population: Results from a longitudinal nationwide survey in Japan. Journal of Diabetes Investigation, 9(5): 1060-1066, 2018.
- 5) Kuramoto N, Suzuki K, Watanabe S, and Hidaka K. Mealtime assistance and caregivers' frequency of checking the residents in nursing homes: a questionnaire survey. Japanese Journal of Comprehensive Rehabilitation Science: 34-42, 2018.
- 6) Kuramoto N, Dushyantha J, Hidaka K, Suzuki K. Smartphone-based swallowing monitoring and feedback device for mealtime assistance in nursing homes. 2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. 2016.
- 7) Takai Y, Yamamoto-Mitani N, Abe Y, and Saito S. Difference between Nurses' and Care Workers' Estimations of Pain Prevalence among Older Residents. Pain Manag Nurs. 16(1): 20-32, 2015.

- 8) Haginoya H, Saeki Y. The Usefulness of Salivary α -Amylase Activity to Evaluate Degree of Stress. Japanese Society of Nursing Art and Science. 10(3): 19-28.2013.
- 9) Haginoya H, Saeki Y. Evaluation of Stress in Patients Undergoing Cardiac Catheterization Using a Femoral Artery or Vein. Japanese Society of Nursing Art and Science, 12(2): 14-22. 2013.
- 10) Saeki Y, Miki A, Haginoya H, Kuroda, Y Kawaguchi, T Hoshino, and Hayashi K. Relationship between expression of laughter and relieving stress in nurses. International Journal of Behavioral Medicine, 19, S72, 2012.
- 11) Shibayama, T., Sato, E., Nishigaki, M., Ochiai, R., and Kazuma, K. Influence of dietary therapy appraisal on future perceived control of type 2 diabetes. *Journal of Health Psychology*, 16(8): 1141-1150, 2011.
- 12) Abe Y, Miyashita M, Ito N, Shirai Y, Momose Y, Tsuji S, Kazuma K. Attitude of outpatients with neuromuscular diseases in Japan to pain and use of analgesics. *J Neurol Sci*, 267(1-2), 22-7, 2008.
- 13) Shibayama, T., Kobayashi, K., Takano, A., Kadowaki, T., & Kazuma, K. (2007). Effectiveness of lifestyle counseling by certified expert nurse of Japan for non-insulin-treated diabetic outpatients: A 1-year randomized controlled trial. *Diabetes Research and Clinical Practice*, 76(2): 265-268, 2007.
- 14) Hidaka K, Kamiya K, and Masuda M. Nourishment of patients with persistent disturbance of consciousness and nutritional markers to simplify evaluation. *Nihon Ronen Igakkai Zasshi*. 43(3): 361-7, 2006.

Gerontological Nursing& Caring

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Major Scientific Interests of the Group

Having been faced super aging society, we are striving useful research and educational activities for elderly people and their families, and all aging population who are in need of caring. I am interested in the following theme and our group are good at mixed method with qualitative research method such as Grounded Theory Approach.

- Health promotion of family caregivers of frail elderly parent
- Supporting middle-aged couples (foreign bride and Japanese spouse) who take care of aging family members
- Gender issues on family caregiving,
- Family caregiving in Mongolia

Projects for Regular Students in Doctoral or Master's Programs

Characteristics of elderly who have hypertension and depression in China.

The relationship between alcohol drinking habit and quality of sleep in community-dwelling elderly.

The relationship between smoking, depression and sleep quality in the elderly.

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

Site visit on Japanese long-term-care: Toyamagata-day service

Selected Publications

- 1) Yumi Hashizume, The coping with the oppressed feelings program: a pilot feasibility study for employed female caregivers of aging parents. *Journal of Nursing and Practice*, 2 (2), 62-72, 2018
- 2) Yumi Hashizume, Releasing from the oppression: caregiving for the elderly parents of Japanese working women. *Qualitative Health Research*, 20 (6), 830-844, 2010
- 3) Noriko Okamoto, Hitomi Matsuda, Xiaochen Wang, Naoki Maki, von Fingerhut Georg, Takumi Abe, Akihiro Araki, Toshifumi Takao, The relationship between social network and sleep quality, *Sleep Biological Rhythms*, 16,506,2018
- 4) Noriko Okamoto, Hitomi Mastuda, Awareness and Related Factor of Hand hygiene among Nurses Working in Elderly-Care Facilities, *Journal of Gerontological Nursing and Caring Research*, 4,2,1-10,2014

Livelihood Support Science

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Major Scientific Interests of the Group

1. Child Care
2. Barrier-free
3. Disable Sociology
4. Understanding Special Needs
5. Child Care for children with developmental disorders

Projects for Regular Students in Doctoral or Master's Programs

- 1) Development of a training program to raise children with developmental disorders
- 2) Study regarding children with developmental disabilities in Indonesia
- 3) Support for parents who have children with food allergies

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

- 1) Consultation on children with developmental disorders

Selected Publications

- 1) TOKUDA K., MIZUNO T. Problems of Tactile Walking Surface Indicators Installed on the Platform of Railway Stations in the World. *The Asian Journal of Disable Sociology*, 2017, 16, 11-23.
- 2) MIZUNO T., TOKUDA K., CHO H. The Current Situation of "Using a Smartphone while Doing Something Else" and Related Factors. *Journal of Digital Convergence*, 2016, 14(12), 561-569.
- 3) MIZUNO T. Characteristics of Children Evaluated by Parents with Infants: From a comparison with survey results of about 15 years ago. *The Asian Journal of Child Care*, 2016, 7 29-36.
- 4) MIZUNO T., NISHIMURA M., TOKUDA K. Current Situation of Using Their Smartphones While Walking in the Major Stations and its Surrounding Area in Tokyo and Osaka: Focused on the result of on-site calibration research. *The Asian Journal of Disable Sociology*, 2016, 15, 1-10.
- 5) MIZUNO T., TOKUDA K. Effectiveness of Awareness Education to prevent Texting While Walking: By comparing informative, threatening, and discussion. *International Journal of Applied Engineering Research*, 2016, 10, 90, 25-27.
- 6) TOKUDA K., MIZUNO T. and EDANO H. Characteristics of Kindergartens or Daycare Centers that are Inappropriate in Childcare for Children with Developmental Disabilities. *The Asian Journal of Child Care*, 2015, 6, 59-66.

Midwifery and Women's Health Nursing

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Major Scientific Interests of the Group

- 1) Maternal and Infant Health Care
- 2) Women's Health and Stress
- 3) Development of Health Education System for Adolescents
- 4) Maternal Child Care Policy and Survey on Child-Care Environment
- 5) Prenatal Nursing

Projects for Regular Students in Doctoral or Master's Programs

- 1) Women's Stress in Maternal Period and after Birth
- 2) Postpartum depression is relationship to neurotransmitter
- 3) Maternal health management
- 4) Mother role Acquisition

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

- 1) Critique and discussion on midwifery and women's health nursing papers and research

Selected Publications

- 1) Kawano A. The Influence of Sleep Status on Urinary Adrenaline, Noradrenaline, and Cortisol Levels in Women. *Journal of Women's Health Care.*7(2), 2018
- 2) Kawano A., Emori Y. The relationship between maternal postpartum psychological state and breast milk secretory IgA levels. *Journal of the American Psychiatric Nurses Association.*21(1), p23-30, 2015
- 3) Kawano A., Emori Y. Changes in maternal secretory immunoglobulin A (SIgA) levels in human milk during 12 weeks after parturition. *American Journal of Human Biology.*25(3), p399-403, 2013
- 4) Kawano A., Emori Y. Association Between Stress-Related Substances in Saliva and Immune Substances in Breast Milk in Puerperae. *Biological Research for Nursing.* 10(4), 350-355, 2009
- 5) Kawano A., Emori Y. The relationship between postpartum mother's psychological state by POMS (Profile of Mood States) and saliva SIgA and cortisol concentrations. *Journal of Academy Midwifery.* 22(1),17-24,2008

Child Health Care and Nursing / Child Health and Development Nursing

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Major Scientific Interests of the Group

- 1) Pediatric nursing
- 2) Child health nursing
- 3) Family nursing
- 4) Nursing of children with cancer
- 5) Nursing of children with chronic illness
- 6) Family empowerment raising child development disorders and children with severe motor and intellectual disabilities (SIMD)

Projects for Regular Students in Doctoral or Master's Programs

- 1) Investigation of current situation concerning family that raising SMID
- 2) Nursing practice in neonatal intensive care unit (End-of-life care / Discharge support)
- 3) Health care transition of children with chronic illness
- 4) Medical social aspect of family raising child with congenital metabolic disorder
- 5) Family empowerment raising children with disabilities

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

Respond to consultation.

e.g. Practice (5days) and discussion (1day) on Child health nursing and Family nursing.

Selected Publications

- 1) Wakimizu R. Fujioka H. Nishigaki K. Matsuzawa A. Quality of Life and associated factors in siblings of children with severe motor and intellectual disabilities: A cross-sectional study: Nursing and Health Sciences/in press, 2020.
- 2) Wakimizu R. Miki A. Saito M. Oto T, et al. Current state and management of verbal abuse, violence, sexual harassment and other harassment by patients and families in pediatric medical settings: The journal of ambulatory and general pediatrics /22(4)/pp.452-461, 2019.
- 3) Wakimizu R. Fujioka H. Nishigaki K. Matsuzawa A. Family empowerment and associated factors in Japanese families raising a child with severe motor and intellectual disabilities: International Journal of Nursing Sciences/5(4)/pp.370-376, 2018.
- 4) Wakimizu R. Fujioka H. Nishigaki K. Matsuzawa A. Construction of empirical model focused on the family empowerment nurturing the child with severe motor and intellectual disabilities at home in Japan: The journal of child health /77(5)/pp.423-432, 2018.
- 5) Wakimizu R. Yamaguchi K. Fujioka H. Family empowerment and quality of life of parents raising children with Developmental Disabilities in 78 Japanese families: International Journal of Nursing

Sciences/ 4 (1)/pp.38-45, 2017.

- 6) Wakimizu R. Yamaguchi K. Fujioka H. Roles and hopes of family members living with SMID children in Japan: Health/8/pp.787-799, 2016.
- 7) Wakimizu R. Quantitative and qualitative consideration on the effects of parenting program on children with a developmental disability, parents, families who have regular visit to hospital: Japanese journal of research in family nursing /21(2)/pp.158-170, 2016.
- 8) Wakimizu R. Yamaguchi K. Fujioka H. Assessment of quality of life, family function and family empowerment for families who provide home care for a child with severe motor and intellectual disabilities in Japan: Health/8(4)/pp.304-317, 2016.
- 9) Wakimizu R. Fujioka H. Analysis of issues and needs of parents when raising a child with developmental disabilities in Japan: Using focus group interviews: The Journal of Nursing Research/24(1)/pp.68-78, 2016.
- 10) Wakimizu R. Fujioka H. Strengthening positive parenting through two-month intervention of a local city in Japan: evaluating parental efficacy, family adjustment, and family empowerment: European Journal for Person Centered Healthcare/3(4)/pp.503-512, 2015.
- 11) Ozawa N. Furuya K. Ishikawa Y. Mother's experience whose child undergoing proton beam therapy by the changing hospital: Journal of Japanese Society of Pediatric Oncology Nursing/11(1)/pp.7-16, 2016.