List of Faculty with their Specialty and Research Content

Note: An asterisk (*) indicates the faculty member can serve as a degree thesis supervisor for that program.

(as of June 1, 2015)

Name	Position	Master's	Doctoral	Department	Specialty	Research Content
KUDOH Jun	Professor	*	*	Medical Genomics	Medical genomics; Gene medicine	Developing genomic analytical methods in order to examine and explain the genetic/hereditary causes of monogenic and multifactorial disorders; as well as their pathogenic mechanisms at the molecular level.
MATSUO Koichi	Professor	*	*	Cell and Tissue Biology (Anatomy)	Bone cell biology	Elucidating the development and homeostasis of the skeleton through cell-cell interaction.
HIRAKATA Michito	Professor	*	*	Medical Education Center	Medical pedagogy; Rheumatology; Clinical Immunology	Medical pedagogy: 1) Reform of the admission system, 2) Development of "Medical Professionalism", 3) Introduction of simulation, 4) Implementation of competency-based education, and 5) Establishment of continuous basic- and postgraduate- educational programs, to improve the Quality of Medical Education. Rheumatology: Investigating the production mechanism, clinical signifiance, and disease state mechanism of "autoantibodies", which are characteristic features of autoimmune disorders such as rheumatic diseases and connective tissue diseases.
MONKAWA Toshiaki	Professor			Medical Education Center	Medical education; Nephrology	Medical pedagogy including the development of education utilizing ICT (Information and Computer Technology), and development of the interprofessional education program. Elucidating mechanisms of water, electrolyte, and acid-base disorders; renal tubule differentiation and regeneration.
KO Minoru	Professor	*	*	Systems Medicine	Stem cells; early embryos; systems medicine; genomics, informatics	Elucidating the structure and dynamics of gene regulatory networks; studying tissue regeneration and rejuvenation; promoting the extension of healthspan through the application of systematic and computational approaches to medicine.
AISO Sadakazu	Professor	*	*	Anatomy	Morphogenetic mechanisms of tissue and cells	Molecular and genetic elucidation as well as morphological study of the process by which tissue and cells are formed through cell differentiation, especially focusing on the function of D-amino acids.
NAKAJIMA Kazunori	Professor	*	*	Anatomy	Mechanisms of central nervous system (CNS) development	Examination of the cellular and molecular mechanisms of how the cells in the CNS (in particular the cells of the cerebral cortex) are born, migrate to their final destinations, develop unique structures such as layers, and finally form such a complex network to enable the various higher brain functions.
IMANISHI Nobuaki	Assoc. Professor			Anatomy	Three dimensional vascular anatomy of human body	Clarification of three dimensional structure of arteries and veins by investigating radiogaphically various organs of fresh cadavers injected systemically with radiopaque. The objective of the research is development of new surgical methods based on the three dimensional anatomy.
OKANO Hideyuki	Professor	*	*	Physiology	CNS development and regeneration	Elucidating the clinical states of neurological disorders, and research into regenerative medicine of the CNS using neural stem cells and iPS cell technology. Development of genetically modified primate techniques, creation of new models of neurological and mental disorders, and the elucidation of the mechanisms of brain development and higher level brain function.
YUZAKI Michisuke	Professor	*	*	Physiology	Synapse formation and plasticity as the basis of higher brain functions and neuropsychiatric disorders	Synapses are not only formed during development, but also continuously modified according to neuronal activities throughout adulthood. Synaptic plasticity is believed to be the basis of all higher brain functions, including learning and memory. Moreover, recent genetic studies have revealed that many neuropsychiatric disorders are caused by defects in genes encoding synaptic molecules. Thus, we aim to understand mechanisms by which synapses are formed, maintained and eliminated by neuronal activities using electrophysiological, molecular biological, and behavioral approaches.
KOHDA Kazuhisa	Assoc. Professor			Physiology	Molecular mechanisms of synapse formation and plasticity	In recent years, the structure and function of the synapse are being investigated intensively as the substrate of psychiatric disorders. Through the studies of molecular mechanisms of synapse formation and plasticity, and the analyses of abnormal cognitive behaviors of various genetically-engineered mice, we seek to integratively elucidate pathogenesis and pathophysiology of mental disorders.
SHIMAZAKI Takuya	Assoc. Professor			Physiology	Neural stem cell biology	Elucidating the mechanisms of spatio-temporal regulation of the self-renewal and differentiation potential of neural stem cells which provide the basis for the central nervous system histogenesis.
KOHYAMA Jun	Assoc. Professor			Physiology	Specialization trait acquisition mechanism of nervous system/neural cells	Clarification of the maintenance and acquisition mechanisms of CNS cell group differentiation from an epigenetic expression regulation mechanism perspective; development of cell lineage regulation techniques.
YASUI Masato	Professor	*	*	Pharmacology	Water Biology and Medicine: understanding of in vivo water dynamics and roles of aquaporins	A double-sided analysis of the structure-function relationship of aquaporins (water channels) consisting of a biochemical approach and molecular dynamic simulations. Furthermore, researching aquaporin regulation mechanisms and high-order functions, and building a basis for drug development.
SOHMA Yoshiro	Assoc. Professor			Pharmacology	Channel transporter molecular pharmacology (membrane transport protein)	Developing systematic control techniques of ABC transporters through examining the mechanism of action of ATP dependent pump engines common to physiologically important ABC transporter superfamilies.
SUEMATSU Makoto	Guest Professor	*	*	Biochemistry	Pathological biochemistry (gas biology): Biology of biocontrol via gas, microcirculation, metabolic system biology	Investigating new molecular mechanisms of metabolic control by gas molecules, while simultaneously advancing metabolic systems biology through the practical use of mass spectrometry and metabolome study.
KAJIMURA Mayumi	Assoc. Professor			Biochemistry	Coupling of brain blood circulation and metabolism	The phenomenon of the connection between local nerve action and metabolism in cerebral blood flow is known as neurovascular coupling (NVC). We seek to elucidate the actual molecular action of NVC which forms the basis of cerebral metabolic regulation through the evaluation of spatial-temporal uneven information of low-molecular metabolites (such as when, where, and how much).
SIOMI Haruhiko	Professor	*	*	Molecular Biology	RNA biology	Understanding molecular mechanisms underlying genomic quality control in light of stem cell formation and maintenance through characterizations of molecular pathways leading to transposon silencing including RNAi. In addition, understanding diseases caused by defects in RNAi and its related pathways.
SAITO Kuniaki	Assoc. Professor			Molecular Biology	Epigenetics; biochemistry	Clarifying the epigenetic molecular basis and the functional role of small RNAs in transposable element regulation through biochemical techniques. Furthermore, examining the mechanisms and causes of diseases related to the failure of transposable element regulation, and investigating new molecular targets for diseases.
OMAE Kazuyuki	Professor	*	*	Preventive Medicine and Public Health	Occupational and environmental epidemiology and toxicology	Health risk assessment of occupational and environmental toxic chemicals by using optimal research methods (epidemiology, experiments on laboratory animals), and the application of the research outcomes to the control of health problems.
TAKEBAYASHI Toru	Professor	*	*	Preventive Medicine and Public Health	Preventive medicine and epidemiology; environmental and industrial health; regional healthcare	Through population-based cohort studies, performing epidemiology research concerning the prevention of lifestyle diseases using functional change by metabolomics; and applying these results to primary prevention efforts in communities. Pursuing social prevention efforts through establishing environmental and occupational standards for protecting population and workers' health with a scientific risk assessment process.
OKAMURA Tomonori	Professor	*	*	Preventive Medicine and Public Health	Public health; lifestyle-related disease; epidemiology; nutrition; community medicine; international collaborative research	We are seeking to identify new biomarkers that predict incidence of lifestyle-related diseases, and also developing novel lifestyle modification (diet, etc.) that will prevent various diseases through large-scale cohort studies and international collaborative studies. Also we are performing regional intervention research through health training and community education, health policy making studies (Health Japan 21, Data Health), and establishing clinical guidelines based on epidemiologic evidence.

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SAKAMOTO Michiie	Professor	*	*	Pathology	Molecular diagnosis and molecular mechanisms of the cancer formation process and infiltration/metastasis	Analysis of the molecular background of early stage cancer imaging, various histological types, and patterns of invasion and metastasis, through integration of research on human cancer models at the cellular system level with genomics/proteomics research utilizing histology; and applying the results towards molecular diagnosis and molecular targeting therapies.
KANAI Yae	Professor	*	*	Pathology	Pathology; Cancer epigenetics; Integrative disease omics analysis	To participate in genome medicine and preventive/pre-emptive medicine by understanding the molecular mechanisms of diseases, therapeutic and diagnostic targets are explored based on integrative disease omics analysis, especially epigenome analysis, in human cancers derived from various organs, histopathologically-recognized precancerous lesions and cancer-prone metabolic and/or inflammatory disorders.
OKITA Hajime	Assoc. Professor			Pathology	Pathology; molecular pathology	Analysis of molecular genetic abnormalities of cancer, particularly in pediatric tumors and sarcomas in order to ascertain their development and progression mechanisms, with the goal of developing molecular diagnosis and treatment methods.
KOYASU Shigeo	Guest Professor	*	*	Microbiology and Immunology	Immunology; cell biology	Analyzing the regulation mechanisms of natural and acquired immunity using molecular cell biological techniques and mouse models. Recently focusing on innate lymphoid cells.
YOSHIMURA Akihiko	Professor	*	*	Microbiology and Immunology	Molecular immunology; understanding disease centered around cytokines and infllammation	1. Analysis of immune regulation mechanims by CIS/SOCS family genes and cytokines. 2. Analysis of cytokines and their signl transduction in various inflammatory diseases. 3. Functional analysis of Spred/Sprouty protein family. 4. T-cell reprogramming.
HONDA Kenya	Professor	*	*	Microbiology and Immunology	Immunology; microbiology; intestinal microbiota	Clarifying effects of the intestinal microbiota on the host physiology. Also investigating the mechanisms of host response to pathogens.
FUJITA Masaki Q.	Professor	*	*	Legal Medicine	Forensic pathology; sudden death study	Investigating the pathogenesis and predisposition of sudden unexpected death syndrome in young Asian males by performing genetic and comparative epidemiological studies. Establishing objective diagnosis methods in forensic medicine.
IINO Morio	Assoc. Professor			Legal Medicine	Forensic pathology; autopsy imaging (AI)	1. Investigating the utility of autopsy imaging (Ai) or postmortem imaging which plays a role complementary with autopsy in diagnosing causes of death. 2. Researching the role of imaging techniques in disaster victim identification (DVI).
MIYATA HiroakI	Professor	*	*	Health Policy and Management	Health policy and management; Quality of healthcare; Epidemiology; Evaluation; Social	Health policy research and clinical research for i. Quality improvement initiative, ii. Healthcare technology/diagnosis/treatment innovation , iii. Sustainable, optimal healthcare system.
SHIMODA Kouji	Assoc. Professor			Laboratory Animal Center	Laboratory animal science; welfare of laboratory animals; developmental engineering of	Consideration of the welfare of animals used in experiments, while inspecting, evaluating, and verifying the implementation of appropriate animal experimentation. Using transgenic techniques to produce various types of model mice for biomedical
KAWAKAMI Yutaka	Professor	*	*	Institute for Advanced Medical Research Division of Cellular Signaling	Investigation of immune-associated diseases (cancer, auto-immune disorders, etc.) and their modulation	Investigation of immune-associated diseases such as cancer and auto-immune disorders, and developing gene therapies and immunotherapies; Investigation of tumor immuno-microenvironment (immune cells, cancer stem cells, epithelial-mesenchymal transition (EMT), etc.) and developing molecular targeted therapies.
SAYA Hideyuki	Professor	*	*	Institute for Advanced Medical Research Division of Gene Regulation	Molecular mechanisms of malignant tumor formation	1) Developing new treatment strategies and property analysis of cancer stem cells; 2) Molecular analysis of the mechanisms of invasion, metastasis, and reoccurrence of cancer; 3) Analysis of the heterogeneous properties of cancer tissue structure and the plasticity of cancer cells.
SATO Yuji	Professor			Center for Clinical Research	Clinical research methodology; pharmaceutical medicine; clinical pharmacokinetics; psychiatry	Pharmaceutical medicine and regulatory science (provision of clinical research support along with promoting multinational clinical trials; and assistance for cooperation across industry, government and academia in developing innovative drugs and medical devices). Adolescent psychiatry, psychopathology, psychotherapy, and clinical psychopharmacology (pharmacokinetics).
IWATA Satoshi	Professor	*	*	Infectious Diseases	Bacterial infectious diseases; pediatric infectious diseases; anti-microbial agents; infection control; immunizations/vaccinations; intestinal flora	Aiming for the improvement of the diagnosis, treatment, and prevention of infectious diseases through epidemiological analysis and clinical pharmacological analysis of various infectious diseases such as respiratory tract infections and urinary tract infections; central nervous system infections; bacteremia; medical device- related infections; drug-resistant bacterial infections; and also through the spread of vaccination.
SUZUKI Norihiro	Professor	*	*	Neurology	Understanding and developing treatments for cerebrovascular disease; dementia; degenerative neurological disorders, and headaches	1) Research and development of new treatments for acute phase cerebrovascular disease and migraines; 2) Basic research into cerebrovascular nerve control; 3) Pursuing a neurotransmitter receptor approach to migraine and cluster headaches; 4) Creation and clinical applications of iPS cells in degenerative neurological disorders; 5) Investigating the causes of myasthenia gravis from autoantibodies; 6) Clarifying demyelinization and axonal involvement in multiple sclerosis (MS), and research into the causes and treatment methods of neurological internal diseases.
TAKEUCHI Tsutomu	Professor	*	*	Rheumatology	The molecular mechanisms and regulation of autoimmune disorders, and the development of targeted treatments	Molecular analysis of the pathogenesis of autoimmune diseases (rheumatoid arthrtis, systemic lupus erythematosus, etc.) and translational research towards the development of molecular targeting clinical applications.
ITOH Hiroshi	Professor	*	*	Nephrology, Endocrinology, and Metabolism	Translational research of lifestyle diseases, metabolic syndrome and renal blood vessel complications	Clarifying the endocrine and metabolic molecular mechanisms of metabolic syndrome associated with high blood pressure, diabetes, obesity, etc., and kidney blood vessel complications; translational research towards developing new treatments and applications from the perspectives of prevention, anti-aging medicine, and regenerative
OKAMOTO Shinichiro	Professor	*	*	Hematology	Analysis of hematopoietic tumors, and the development of new treatments for hematopoietic malignancies using hematopoietic stem cell transplants and molecular targeting therapy	Selective potentiation of pretreatments with molecular targeted therapies; selective regulation of immunoreaction to allograft transplant; mechanisms of anti-tumor effects of the alloimmune response to umbilical cord blood transplant; QOL after transplant; myeloma; new molecular targeted treatments and clinical research on MDS, and furthermore, analysis of the mechanisms of bone marrow and lymph node tumor pathogenesis.
FUKUDA Keiichi	Professor	*	*	Cardiology	Development of treatment methods for intractable heart failure through the regeneration of cardiac muscle cells	Cardiomyocyte regeneration using iPS stem cells to understand disease pathology, develop new treatments, and advance research in regenerative medicine. Developing multi-faceted research into the correlation of heart failure and sympathetic nerve function, the mechanisms of heart valve disease, and new treatment methods of pulmonary hypertension.
BETSUYAKU Tomoko	Professor	*	*	Pulmonary Medicine	Basic and clinical research concerning understanding and developing new treatments for respiratory illnesses	Molecular biological research concerning the pathology and pathogenesis mechanisms of lung cancer and inflammatory lung diseases such as chronic obstructive pulmonary disease (COPD), interstitial pneumonia, and bronchial asthma; establishing new diagnostic methods and treatments, and searching for markers which reflect a patient's
KANAI Takanori	Professor	*	*	Gastroenterology and Hepatology	Basic and clinical research of gastrointestinal immunity disorders	Clinical development of new drugs and treatments for IBD as well as liver and pancreatic immunity disorders. Developing preventive medicine that seeks to unify immunology, genetics, and nutritional science.
TAKAHASHI Shinichi	Assoc. Professor			Neurology	Investigating cerebrovascular metabolic control unit and developing comprehensive treatments for stroke and neuroimmune/degenerative diseases	Elucidation of the functions of cell populations which constitute brain tissue (focusing on astroglia in particular). Elucidation of diseases caused by abnormalities of these functions leading towards regenerative medical applications.
YAMAOKA Kunihiro	Assoc. Professor			Rheumatology	Basic and clinical research towards better understanding and new treatments for collagen disease and rheumatic disease	Alteration of the immune function by cytokine and molecular targeted treatments to develop new treatment strategy for autoimmune disorders. Particularly interested in the role of innate immunity in autoimmune disorders and to induce tolerance for cure.

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WAKINO Shu	Assoc. Professor			Nephrology, Endocrinology, and Metabolism	Nephrology, Endocrinology, Metabolism	The goals of our lab are to elucidate the pathophysiology and the pathogenesis of chronic kidney disease (CKD). As to the research project on the pathophysiology of CKD, our research interest includes inter-organ relationship in the CKD. Regarding the pathogenesis of CKD, we are especially focusing on that of diabetic kidney disease which is the most common renal disease in the world. We also have advanced a translational research on the development of novel therapy for CKD. We examined the effects of gut-derived peptide, Ghrelin, and aldosterone blocker, eplerenone, on the initiation and progression of CKD.
SANO Motoaki	Assoc. Professor			Cardiology	Elucidation and translational resarch of cardiovascular disease	Translational research related to developing new treatments for cardiovascular diseases by anaylizing their mechanisms using molecular biological and genetic techniques.
TAKATSUKI Seiji	Assoc. Professor			Cardioligy	Basic and clinical research concerning understanding and developing new treatments for respiratory illnesses	Diagnosis and analysis of arrhythmia and development of treatment methods; and in particular, developing catheter and laser catheter methods in atrial fibrillation, and developing pericardium endoscopes.
SOEJIMA Kenzo	Professor			Clinical and Translational Research Center	Elucidation of resistance to molecular targeted therapy of lung cancer, and the development of new treatments	Developing new treatment tactics in order to understand and overcome drug tolerance through genomic, epigenomic, and proteomic analysis in various forms of long-term exposure molecular targeted treatments of lung cancer and clinical specimens.
SUZUKI Hidekazu	Assoc. Professor			Gastroenteroloy and Hepatology	Gastroenterology; Clinical and Basic approach for Upper gastrointestinal tract diseases; Clinical and molecular oncology; Clinical pharmacology and nutrition in digestive organs	Novel diagnostic and therapeutic approach to organic and functional gastrointestinal diseases; Pathophysiology, diagnosis and treatment of Helicobacter pylori infection; Clinical pharmacotherapy and nutrition for digestive diseases.
KITAGAWA Yuko	Professor	*	*	General and Gastroenterological Surgery	Gasteroenterology; surgical oncology; endoscopic surgery; multidisciplinary solid tumor therapy; surgical infections; bodily reactions to invasive surgery; sentinel node navigation surgery	Research utilizing an approach based on the sentinel node theory. Analyzing the mechanisms of metastasis of lymph node cancers and their regulation. Applying microscopic metastasis and capillary blood cancer cell detection methods to realize individualized, multidisciplinary treatment mehthods for digestive organ cancers. Research into reactions to invasive surgery, and surgery-related infections.
KURODA Tatsuo	Professor	*	*	Pediatric Surgery	Cellular kinetics of pediatric cancer; pediatric cancer stem cells, fetal surgery	Basic research on cellular kinetics and cancer stem cells of pediatric cancers associated with clinical trials of new treatment strategies. Develoment of fetal diagnostic and surgical techniques.
YOSHIDA Kazunari	Professor	*	*	Neurosurgery	Surgical treatments for brain tumors; multidisciplinary treatments for malignant brain tumors; basicranial surgery; histological analysis of brain	Developing surgical techniques based on surgical anatomy and analysis of clinical imaging of cranial diseases and brain tumors. Developing multidisciplinary therapies and diagnostics for malignant brain tumors (particularly germ cell tumors). Analysis of brain tumor malignancy using biological and histochemical techniques.
ASAMURA Hisao	Professor	*	*	General Thoracic Surgery	General thoracic surgery; thoracic oncology; TNM stage classification of cancer (UICC); cancer registry and database development; minimally invasive	Multidisciplinary therapy of lung cancer, thymic epithelial tumor, pleural mesothelioma, and other thoracic malignancies; clinical trials including surgery for thoracic malignancies; TNM stage classification (UICC); development of minimally-invasive surgical techniques for lung cancers; lung cancer registry.
SHIMIZU Hideyuki	Professor	*	*	Cardiovascular Surgery	Cardiovascular surgery; Endovascular stent-graft; minimally invasive cardiac surgery; organ protection methods; artificial heart and blood	Developing surgical methods with a basis in implementing major surgery and minimally invasive treatments for cardiac and aortic diseases; and research on perioperative organ protection methods. Development of new treatments and diagnostic methods for aortic aneurysm and aortic dissection.
HASEGAWA Hirotoshi	Assoc. Professor			General and Gastroenterological Surgery	Surgical oncology (large intestine cancers); inflammatory bowel disease (IBD); minimally invasive surgery; surgical research methodology	Developing individualized treatments for cancer of the digestive organs; developing and propagating minimally invasive surgical techniques for colon cancer and IBD; research on surgical research methodology.
TAKEUCHI Hiroya	Assoc. Professor			General and Gastroenterological Surgery	Gastroenterological surgery (esophagus and stomach); surgical oncology; endoscopic surgery; solid tumor multidisciplinary therapies; surgical infections, bodily reactions to invasive surgery; individually minimized minor	Developing individualized reductive treatments for digestive organ cancers using sentinel lymph node theory and regulation of lymph node cancer metastasis mechanisms.
HOSHINO Ken	Assoc. Professor			Pediatric Surgery	Treatment of Pediatric Congenital Disorders; Pediatric Organ Transplantation (Liver and Intestine); Pediatric Liver Surgery; Pediatric Laparoscopic Surgery	Understanding the mechanisms of transplant rejection; developing optimal immunotherapies based on PK/PD (Pharmacokinetic/Pharmacodynamic); developing minimally invasive therapies (robotic surgery).
OHIRA Takayuki	Assoc. Professor			Neurosurgery	Brain tumor surgery; functional neurosurgery; minimally invasive treatments; neurophysiology	Development of minimally invasive treatment techniques for auditory nerve and other brain tumors (neuro-endoscopic surgery, computer guided navigation surgery, stereotactic radiosurgery). Developing deep brain stimulation treatment techniques for involuntary movement disorders such as Parkinson's disease.
TODA Masahiro	Assoc. Professor			Neurosurgery	Brain tumors; pituitary tumors; endoscopic skull base surgery; immunotherapy	Development of minimally invasive treatments for pituitary tumors and skull base tumors (endonasal endoscope surgery, etc.). Development of new treatments for malignant brain tumors (immunotherapy, etc.).
OHTSUKA Takashi	Assoc. Professor			General Thoracic Surgery	Thoracic Surgery, Thoracic Oncology, Minimally Invasive Surgery, Pneumothorax and Cystic Lung Disease, Chest Wall Surgery, Lung Transplantation	Lung cancer, mechanisms of cancer invasion, acute and chronic rejection after lung transplantation, developing devices for lung cancer surgery, mediastinal tumors.
AEBA Ryo	Assoc. Professor			Cardiovascular Surgery	Surgical treatments for pediatric/congenital heart disease	Developing surgical treatments for congenital heart disease using self-organizing and regenerative medicine.
KUDO Mikihiko	Assoc. Professor			Cardiovascular Surgery	Surgical treatments for acquired heart disease; minimally invasive heart surgery	Developing minimally invasive heart surgery techniques. Mitral and aortic valvuloplasty. Development of transcatheter techniques and other valve treatment methods in valve diseases of the elderly.
MORISAKI Hiroshi	Professor	*	*	Anesthesiology	Sepsis and Heart Function, Gastrointestinal Defense Mechanisms, Volatile Anaesthetics and Microcirculatory Disorders, Epidural Anesthesia and the Immune System	Advancing host defense medicine. Currently researching biological immune mechanisms through epidural anesthesia and anesthetic depth, and developing cardioprotective sepsis methods and intestinal tract defense mechanisms.
MATSUMOTO Morio	Professor	*	*	Orthopedic Surgery	Spine Surgery, Minimally Invasive Spine Therapies, Scoliosis	Developing prosthetics necessary for spinal surgery. Identifying scoliosis susceptible genes and developing new assesment and surgical methods. Multicenter collaborative research on spine disorders. Researching spine aging through MRI machines. Researching the invasiveness of spine surgery.
NAKAMURA Masaya	Professor	*	*	Orthopedic Surgery	Spine and Spinal Cord Surgery, Spinal Cord Disorder Therapies, Neuroscience (Spinal Cord Regeneration, Growth factors, Neuroimaging)	Multicenter collaborative research on spine and spinal cord disorders. Developing regenerative medicine for musculoskeketal disorders and new assessment methods through MRI and CT. Working on (1) iPS cell-based transplant therapies, (2) hepatocyte growth factors, (3) suppression of axonal growth inhibitors.

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MORIOKA Hideo	Assoc. Professor			Orthopedic Surgery	Musculoskeletal Tumor Surgery, Bone Metastasis, Chemotherapy, Molecular Targeted Therapy	Global analysis of disease susceptibility gene and proteomic analysis of biomarker associated with sarcoma for individualized medicinel and drug discovery.
KISHI Kazuo	Professor	*	*	Plastic and Reconstructive Surgery	Skin Regeneration (Including Skin Appendages)	Developing skin reproduction methods that utilize adult animal cells based on the phenomenon of skin regeneration in fetal mice, and analyzing its cellular and molecular mechanisms.
TAKAHASHI Takao	Professor	*	*	Pediatrics	Developmental Neurobiology, the Cell Cycle, Neural Stem Cells, Cerebral Cortex Assembly	Research concerning mechanisms of developmental disorders of higher cortical function with a focus on proliferation/differentiation behavior of neural stem cells/progenitors in normal and abnormal histogenesis of the neocortex.
HASEGAWA Tomonobu	Professor	*	*	Pediatrics	Molecular Mechanisms of Human Growth and Sexual Differentiation	Analyzing the molecular mechanisms of human growth and sex differentiation (and disorders thereof) using human diseases and mouse models, while also developing new treatments for disorders of growth and sex development.
YAMAGISHI Hiroyuki	Assoc. Professor			Pediatrics	Pediatric Cardiology, Cardiovascular Embryology	Congenital heart disease (CHD) occurs in nearly 1% of all live births and is the major cause of infant mortality and morbidity. Our research for identifying genetic causes and molecular mechanisms of CHD is essential not only to fully understand the disease, but also to enhance current knowledge about new preventive and/or therapeutic strategies.
AOKI Daisuke	Professor	*	*	Obstetrics and Gynecology	Gynecological Oncology, Gynecological Pathology, Molecular Cytogenetics, Hereditary Cancer, Fertility-Conserving Therapy in Gynecological Cancer Patients, Cancer Screening	Pursuing new prevention and therepeutic methods as well as diagnostics of hereditary gynecological cancers based on analysis of genesis, epigenetics, and molecular cytogenesis; and also investigating diagnostic performance of characteristic expression of antigens in cancer cells with a basis in gynecologic oncology.
TANAKA Mamoru	Professor	*	*	Obstetrics and Gynecology	Perinatal Medicine, Reproductive Medicine, Clinical Genetics, Embryology	Molecular biology concerning mammalian development; fetal medicine ranging from diagnostics to therapies; research and development of treatments of perinatal diseases utilizing mesenchyme stem cells.
SUEOKA Kou	Assoc. Professor			Obstetrics and Gynecology	Reproductive Medicine, Molecular Biology (Formation of Early Embryos and Gametes), Preimplantation Genetic	Designing comprehensive research of reproductive medicine; molecular biological analysis of reproductive cellular disorders; comprehensive research of pre-implantation molecular diagnostics; genetic analysis of sex differentiation and infertility; research concerning the transmission of mitochondrial DNA and its role in reproductive abilities.
MARUYAMA Tetsuo	Assoc. Professor			Obstetrics and Gynecology	Reproductive Medicine, Reproductive Endocrinology, Stem Cell Medicine, Regenerative Medicine, Clinical Genetics	Developing new reproductive regenerative medicine aiming for the restoration and rehabilitation of reproductive capabilities, and to understand the clinical condition mechanisms of reproductive and perinatal disorders from the perspetive of stem cells as well as the endocrine system and molecular genetics.
SUSUMU Nobuyuki	Assoc. Professor			Obstetrics and Gynecology	Gynecological Oncology, Gynecological Pathology, Molecular Cytogenetics, Fertility-Preserving Therapy in Gynecological Cancer Patients (Endometrial Cancer), Cancer	Developing new diagnostics and therapies as well as predicting the effectiveness of treatements for gynecological cancers through gynecological oncology, pathology, and molecular cytogenetic techniques; and in particular aiming for new treatment methods from the perspective of fertility preservation.
TSUBOTA Kazuo	Professor	*	*	Ophthalmology	Regenerative Medicine, Corneal Transplantation, Dry Eye, Refractive Surgery, Myopia, Presbyopia, Anti-Aging Medicine, Health Science, Food Science	Cornea regeneration; developing new treatments for and elucidating the mechanisms of dry eye associated with visual display terminals (VDT) and Sjogren's syndrome. Recently pursuing anti-aging medicine for age-related macular degeneration, cataracts, visus senilis, nearsightedness, glaucoma, etc., while also expanding our outlook towards the health sciences and food sciences.
NEGISHI Kazuno	Assoc. Professor			Ophthalmology	Understanding Eyeball Optical System Conditions, Analyzing Visual Performance	Research related to visual optics and function. On the basis of the results of basic optical analysis using PC simulation, optical bench testing, and clinical data, we are trying to improve quality of vision, and aim to construct the ideal optical system for the human eye in daily activities.
SHIMMURA Shigeto	Assoc. Professor			Ophthalmology	Cornea Transplantation, Corneal Regeneration	1) Developing regenerative techniques and associated procedures required for their application using cornea stem cell biology and cornea tissue engineering methods. 2) Elucidating the pathogenic mechanisms and associated role of stem cells in severe ocular-surface disorders.
AMAGAI Masayuki	Professor	*	*	Dermatology	Autoimmunity, Allergies, Skin Barrier, Skin Immunity	Elucidating pathophysiological and immunological mechanisms in tissue-specific autoimmune disorders, and clarifying fundamental mechanisms of peripheral tolerance by analyzing the skin as an immune organ. Clarifying the mechanisms of allergy diseases at the molecular level from the point of view of skin barrier dysfunction, and developing novel therapeutic and preventive strategies. Elucidating the pathophysiological mechanisms of severe forms of drug eruption.
EBIHARA Tamotsu	Assoc. Professor			Dermatology	Understanding Atopic Dermatitis and Establishing Treatments, Contact Dermatitis Clinical Research	Analyzing clinical information with a basis in knowledge obtained from basic research of skin barrier functional disorders, etc. in atopic dermatitis; and trying to elucidate disease conditions and establish new treatments and patient education methods. Pursuing the trends of allergens in contact dermatitis.
OYA Mototsugu	Professor	*	*	Urology	Understanding the Oncogenesis of Urological Cancers and Developing Novel Cancer Therapies	Aiming for an integrative understanding of the development of cancer from precancerous lesions and the mechanisms of metastasis; developing innovative new treatments with a focus on the cellular-biological features in cytokine production and neoangiogenesis, etc.
MIYAJIMA Akira	Assoc. Professor			Urology	Urogenital cancer, Nephrology, Laparoscopic surgery	Establishing new cancer treatments targeting neoangiogenesis; elucidating the process of kidney atrophy focused on kidney fibrosis; investigating the main factors of influence on the outcome of minimally invasive surgeries.
OGAWA Kaoru	Professor	*	*	Otorhinolaryngology, Head and Neck Surgery	Protection and Repair of Inner Ear Sensory Cells, Understanding the Suppression Mechanisms of Tinnitus	Pursuing new treatments for chronic deafness and tinnitus which are refractory in nature; 1) Regeneration of inner ear sensory cells (for hearing and balance); and 2) Research concerning cellular protective mechanisms against various kinds of damage such as acoustic trauma.
KUNIHIRO Takanobu	Assoc. Professor			Otorhinolaryngology, Head and Neck Surgery	Equilibrium Research, Facial Palsy, Sinusitis	Research and examination of so-called undiagnosed dizziness and dizziness caused by external wounds. Also recently proactively pursuing treatments of sinusitis before dental implantation and treatments of complications caused by dental implantation.
MIMURA Masaru	Professor	*	*	Neuropsychiatry	Neuropsychology and Geriatric Psychiatry	Elucidating and developing treatments and rehabilitation techniques targeted at higher-level brain function disorders and cognitive impairments caused by brain damage. Analyzing cognitive impairments of psychoneural disorders related to depression using functional neuroimaging.
MURAMATSU Taro	Assoc. Professor			Neuropsychiatry	Neuropsychology, Forensic Psychiatry	Investigating brain function disorders and their connection with society through higher level brain function disorders, brain imaging, and psychiatric examinations in criminal
SHIGEMATSU Naoyuki	Professor	*	*	Radiation Oncology	Radiation Oncology, Radiation Therapy, Radiation Biology	Radiation oncology; radiation biology In clinical research, performing adaptive magnification of stereotactic radiation therapy, intensity modulated radiotherapy, image-guided radiotherapy, as well as radiation within tissue and cavities in various types of cancer treatments. Also evaluating the effectiveness of chemotherapy combined with radiation therapy. In basic research, examining chromosome and genetic mutation as a result of radiation exposure; and molecular biological investigation to predict the efficacy of radiation

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OHASHI Toshio	Assoc. Professor			Radiation Oncology	Radiation Oncology	Developing new methods of high-precision radiation therapies beginning with intensity-modulated radiation therapy and stereotactic radiosurgery. Investigation of expanding the applications of combined therapies using brachytherapy and external irradiation, and researching dose optimization.
JINZAKI Masahiro	Professor	*	*	Diagnostic Radiology	Diagnostic Imaging	In clinical work, constructing optimum image diagnostic algorithms focused on circulatory and urinary organs. In basic research, aiming for further body imaging while developing new devices; following investigation of the vascular system, alimentary system, and urinary system, performing further research for visualizing the microscopic circulatory system, lymph system, and peripheral nervous sytem by CT or MRI.
MURAKAMI Koji	Professor			Diagnostic Radiology	Nuclear Medicine, Positron Medicine	Along with investigating the clinical usefulness of PET imaging in analysis of various malignant tumors and heart/brain function, also developing new radiopharmaceuticals and imaging equipment as well as research into imaging analysis methods.
TANIMOTO Akihiro	Assoc. Professor			Diagnostic Radiology	Diagnostic Radiology	Research and development of tissue specifity contrast media as well as imaging diagnostics of the abdomen and urinary organs using MRIs. Developing systems of non-invasive external diagnosis of cancers using MRIs (particularly of liver, pancreas, and prostate cancers) at the microscopic level. Also researching in vivo tissue diagnostic techniques using various tissue specifity contrast
NAKAGAWA Taneaki	Professor	*	*	Dentistry and Oral Surgery	Periodontology	1) Research on periodonotopathic bacteria; 2) Rearch on oral tissue regeneration using mesenchymal stem cells and iPS cells; 3) Analysis of the sensitivity of antimicrobial agents against periodontopathic bacteria; 4) Clinical research on sonic toothbrush cleaning.
KAWANA Hiromasa	Assoc. Professor		*	Dentistry and Oral Surgery	Oral and Maxillofacial Surgery, Oral and Maxillofacial Implants	Developing jaw bone regeneration techniques using artificial materials and cellular growth factors; development of haptic surgical drills through telenavigation techniques; molecular targeted treatments of jawbone osteosarcoma; molecularbiological elucidation of jawbone metabolism regulation; regeneration of lower alveolar nerve sensitivity using hIPS cells.
LIU Meigen	Professor	*	*	Rehabilitation Medicine	Rehabilitation Medicine, Neuroscience, Exercise Physiology	1) Developing rehabilitation methods to induce plasticity of the central nervous system; 2) Development and clinical applications of brain machine interface; 3) Evaluation and prognosis prediction of injury; 4) Research concerning the exercise stress of disabled persons; 5) Advancing the research of cancer rehabilitaiton.
TSUJI Tetsuya	Assoc. Professor			Rehabilitation Medicine Cancer Rehabilitation	Cancer Rehabilitation Medicine, Angiology, Clinical Neurophysiology, Exercise Physiology	1) Developing cancer rehabilitation programs; 2) Developing an evaluation scale for cancer functional disorders; 3) Developing therepeutic exercises for cancer cachexia; 4) Developing evaluation methods and therepeutic exercises for lymphedema using fluorescent lymph angiography; 5) Development and clinical applications of 3D FG sensor breathing diagnostic systems and dysphagia evaluation devices.
HAYASHI Matsuhiko	Professor	*	*	Apheresis and Dialysis Center	Water and Electrolyte Metabolism, Kidney Differentiation and Regeneration, Understanding the Components of Vascular Calcification	Analysis of the physiological regulation mechanisms at the molecular level of the acid/base equilibrium and calcium/phosphorus metabolism of the kidneys. Also, by way of developing treatments for progressive renal damage, elucidating regenerative mechanisms of acute renal damage and researching the causes of vascular calcification observed with impaired renal function.
TANIGAWARA Yusuke	Professor	*	*	Clinical Pharmacokinetics and Pharmacodynamics	Pharmacokinetics, Clinical Pharmacology	Researching drug disposition, pharmacodynamics, pharmacogenomics and modeling & simulation methods focused on clinical pharmacology. The research includes elucidating the individual differences in drug efficacy and development of optimal dosing methodology aiming towards personalized medical treatments.
MURATA Mitsuru	Professor	*	*	Laboratory Medicine	Genetic Testing, Clinical Lab Standardization, Understanding and Preventing Thrombotic Disorders, Basic Platelet Research	Researching, standardizing and spreading the use of clinical tests in medical practice using genome information and genetic analyais techniques. Elucidating the mechanisms of blood clot formation from a molecular perspective, and through identifying hereditary and acquired risk factors, establishing effective preventions and treatments. Basic research of blood platelet formation and establishing evaluation
HORI Shingo	Professor	*	*	Emergency and Critical Care Medicine	Emergency Medicine Modeling, Cardiovascular Resuscitation, Sudden Death While Bathing, CPR in Schools	1) Spreading awareness of emergncy medicine provided by the ER system; 2) Patient state research (hypothermia, hydrogen inhalation, oxygen radical, etc.) through cardiovascular resuscitation systems, evidence based medicine (EBM), and experiment modeling; 3) Experiemental and clinical research of the causes, pathology, and prevention of sudden death common in Japan; 4) Performing resuscitation education in
NAMIKI Jun	Assoc. Professor			Emergency and Critical Care Medicine	Head Trauma, Biological Invasions, Neuroscience (Neuroregeneration)	1) Multidisciplinary intensive medical care for traumatic brain injury aimed at regulating intracranial pressure and protecting the brain by means of surgical treatments, proactive brain temperature management, and barbiturate treatments, etc; 2) Elucidating the whole-body response to serious injury/illness such as septic shock, etc. through PAMPs (pathogen-associated molecular patterns) and DAMPs (damage-associated molecular pattern molecules); 3) Promoting neural regeneration and restoration of brain function through the activation of endogenous neural stem cells.
YAHAGI Naohisa	Professor	*	*	Cancer Center	Minimally Invasive treatment for early Gastrointestinal Cancers	Developing new procedures for advanced minimally-invasive treatments such as endoscopic resection and laparoscopic resection. And developing new therapeutic instruments for advanced minimally-invasive treatments, including NOTES (natural orifice translumenal endoscopic surgery) and LECS (laparoscopy and endoscopy combined surgery).
TAKAISHI Hiromasa	Assoc. Professor			Cancer Center	Clinical Oncology, Gastroenterology	Developing new treatments and diagnostic methods of cancer by elucidating molecular pathogenesis. Clinical oncology education and oncologist training.
MATSUMOTO Hideo	Professor	*	*	Institute for Integrated Sports Medicine	Sports Medicine, Sports Science, Knee Surgery, Biomedical Engineering	Research aimed at improvement of sports performance and prevention of sports injuries and disorders, using 3D motion analysis in sports and activities of daily living. Research and development of artificial joints for sports recovery in athletes. Research of sports medicine including sports and health, sports nutrition, and sports psychology.
OGATA Haruhiko	Professor	*	*	Center for Diagnostic and Therapeutic Endoscopy	Understanding Inflammatory Bowel Disease and Developing Novel Treatments, Endoscopic Diagnosis and Treatment of Digestive Tract Disorders	Elucidating inflammatory bowel disease through in vivo observation of the alimentary canal mucous membranes using endoscopes equipped with high magnification and image enhancing functions, and developing capsule endoscopes capable of observing the alimentary canal and performing other functions in the near-future.
HANDA Makoto	Professor	*	*	Center for Transfusion Medicine and Cell Therapy	Analyzing Platelet Thrombus Formation, Development of Artifical Platelets and Induced Pluripotent Stem Cell-Derived Platelets	Along with analysis of the cell-adhesion factors and signal molecules involved in platelet thrombus formation using in vitro measurement systems, molecular deficient patients, and mice, we are also developing synthetic platelets that can be used in platelet transfusions using liposomes, and taking part in collaborative research of the clinical applications of platelets derived from human iPS cells.
IWAO Yasushi	Professor			Center for Preventive Medicine	Gastroenterological Endoscopy Treatment of Ulcerative Colitis and Chron's Disease Preventive Medicine (Medical Check Up and Health Promotion)	1) Inflammatory diseases of the digestive organs and endoscopic diagnostic methods; 2) Elucidation of the cancer causing mechanisms associated with chronic infllamation, and diagnostic and surveillance methods aimed at early detection; 3) Research aimed at establishing high precision diagnostic methods of the alimentary canal.
KOSAKI Kenjiro	Professor	*	*	Center for Medical Genetics (Medical Genomics)	Clinical Genetics, Teratology, Pediatrics	1) Clinical genomics includling diagnosis and management of rare diaseases and genetic counseling. 2) Elucidation of genetic causes of genetic diseases with a focus on "undiagnosed diseases".
MASUI Tohru	Professor			Center for Medical Genetics	Research Ethics, Science and Technology Policy (Research Concerning the Research Applications of Samples and Data Derived from the Human Body)	My subjects are ethics, policy, and science of human subject research, especially the research use of materials and data. Research concerning the nature, ethics, and duties of researchers in medical research, which are important factors in my field. We should protect and promote public health and at the same time personal dignity and rights. This antinomy causes difficulties in my research field.

Name	Position	Master's	Doctoral	Department	Specialty	Research Content
HASEGAWA Naoki	Professor			Center for Infectious Disease and Infection Control	Clinical Infectious Diseases Respiratory Infections Infection Control	Evaluating the PK−PD evaluation of pulmonary antimicrobial drugs in the lungs by obtaining respiratory tract fluids using bronchoscope. Searching for biomarkers to evaluate disease activity of mycobacterial infectious diseases including non-tuberculous mycobacterium. Promotiom of PK/PD based appropriate usage of newly-develpoed antibiotics. Developing, evaluating, and examining the clinical importance
KUBOTA Yoshiaki	Professor	*	*	Vascular Biology	Understanding the Formation of Vascular Networks	Unlocking the mysteries of the dynamics of how the blood vessel network is able to reach remote locations of the body using the latest imaging techniques. On this foundation, developing completely new molecular targeted treatments for cancer and ischemia, etc.
KAMEYAMA Kaori	Assoc. Professor			Pathology	Endocrine Tumor Pathology	A pathological diagnostic basis for endocrine organs is not yet established, and therefore could differ from clinical presentation. We are establishing new diagnostic methods (particularly for thyroid and parathyroid cancers).
WATANABE Masazumi	Professor			Project Management Office for New Hospital Building	Hospital Management and Planning	In anticipation of the School of Medicine's centennial in 2017 and the opening of the new hospital, we are conducting planning activities ranging from functional to financial planning with the aim of constructing world-class hospital facilities in order to implement medical care, education and research based on the concept of the "university hospital".
FUJISHIMA Seitaro	Assoc. Professor			Center for General Medicine Education	Internal Medicine - Pulmonary Emergency and Critical Care Medicine Infectious Disease Medicine	1) Drug discovery for inflammatory lung diseases, including ARDS and interstitial pneumonia; 2) Drug discovery for severe sepsis and fulminant infectious diseases; 3) Development of diagnostic aid systems and POCs for use in ERs and bedside care; 4) Development of e-learning systems for use in medical education before and after graduation.
FURUNO Taiji	Professor	*		Physics	Interfaces in Biophysical Chemistry, Bioimaging	Creating two-dimensional (2D) protein arrays using the air-water interface and immobilizing them after transfer onto a solid surface; and performing structural evaluations under physiological conditions using an atomic force microscope. Currently performing immobilization of an oriented dense 2D packing of Streptavidin, and research concerning the application toward protein microarrays (or protein chips).
INOUE Hiroyoshi	Professor	*		Chemistry	Radiology, Pharmaceutical Chemistry, Natural Products	I am responsible for radiation health and safety at Keio University's Shinanomachi Campus. Our research is primarily interested in developing ways to safely concentrate and dispose of radioisotopes. In addition, we are interested in developing biosensors using isotopic marking and aptamer technology for age related disease diagnostics and food monitoring. Another aspect of our research focuses on the identification of useful functional components from nature and ways to develop these for synthetic applications.
NAGAI Takatoshi	Professor	*		Biology	Neurobiology in sensory systems	Physiological and morphological studies on sensory transduction in gustatory and olfactory system. Study on ion and water transport in epithelial cells of the skin from morphological, physiological, and behavioral perspectives.
NARA Masatoshi	Professor	*		Faculty of Letters, Department of Ethics	Ethics, Medical Ethics	Applying ethical theories and methodologies to analyze ethical questions raised in clinical medicine and medical research. Recently focusing on ethical questions in reproductive medicine, misconduct in medical research, protection of personal information, and conflict of interest.
NAKAMURA Hiroshi	Professor	*		Business	Industrial Organization (Life Science and Health Care Industries), Strategic Management	Considering multi-occupational collaboration in the health care industry (in house and out); policy research concerning the creation of innovative products while reducing the burden on patients and public funds, organizational reform and management strategies of companies in order to bring about innovatiation and reform in the life science
ANEGAWA Tomofumi	Professor	*		Business	Health Economics, Applied Economics	Applying the study of economics to analyze medical care, education, energy, and other related industries. In particular, studying the economics of the medical device industry and intellectual property rights, and qualitative analysis of regional medical care. Furthermore, establishing a grand design for Japanese policy making for healthy aging.
MINTON Timothy	Professor			English	English Studies English Pedagogy English for Specific Purposes	Practical research into 1) the nature and causes of common grammatical and semantic errors made by Japanese learners of English, 2) problems specific to English usage in the presentation, both written and oral, of medical research, and 3) effective methods of medical English education (in collaboration with other members of the Japan Society for Medical English Education).
KOMACHIYA Naoko	Assoc. Professor			English	Early Modern English Literature	The literary and physiological aspects of two apparently conflicting phenomena in early modern English literature: the significance attached to the soothing effects of laughter, and the cult of melancholy.
MINAMI Nariyuki	Professor			Mathematics	Mathematics (probability theory and its application to mathematical physics)	Research on statistical nature of spectra of random operators, including Schroedinger operators possessing random potential as representative examples.
MITSUI Takahisa	Assoc. Professor			Physics	Optical Measurements of Soft Matter	Thermal agitation of the interior and surface of matter. Through these measurements, we can gain knowledge not only concerning thermal fluctuation, but moisture and elasticity can also be measured without physical contact. Pursuing clinical applications through performing measurements of various materials.
SUZUKI Atsushi C.	Assoc. Professor			Biology	Comparative Zoology, Tardigrade Biology	Research concerning the natural history surrounding tardigrades, such as life history traits of terrestrial tardigrades which possess high resistance to desiccation, taxonomy of marine tardigrades, micromorphology of gametogenesis, etc.