

Graduate School of Medicine (Doctoral Course)

Admission Requirement for International Students

April 2018 Admission



# Contents

Admission policy for Hamamatsu University School of Medicine Graduate School of Medicine (Doctoral Course)	1
1 Number of Students to be Admitted	1
2 Eligibility for Application	1
3 Important Notes before You Apply	2
4 Individual Review of Admission Eligibility	2
5 Application Procedures	3
6 Selection Method	4
7 Announcement of Results	4
8 Enrollment Procedures	4
9 Payment	5
10 Privacy Policy	5
11 Scholarship and Miscellaneous Benefits	5
Graduate School of Medicine (Doctoral Course) Overview	
1 Objectives	6
2 Educational Aims	6
3 Structure	6
4 Overview of Research Fields	6
(1) Advanced Photo Medicine	
(2) Integrated Functional Medicine	
(3) Frontier Medicine	
(4) Infectious Disease Control & Preventive Medicine	
5 Course Registration	10
Major Research Areas	11
Application Fee Payment Instructions	

## Hamamatsu University School of Medicine Graduate School of Medicine (Doctoral Course) Admission Policy

In pursuit of our objective of developing creative medical researchers with superior research abilities and clinicians with a high level of research ability who can put research findings to practical use in the field, we seek individuals who fit the following description:

### ●Description of Desired Student Type

1. Individuals that aim to become superior researchers and who have achieved a high level of specialist knowledge and skill in medical science and treatment and/or aim to become clinicians who can put research findings to practical use in the field.
2. Individuals that aim to develop their ability to independently conduct creative research and continue their investigations over the course of their lives.
3. Individuals with a high sense of ethics and humanity, who have a desire to take a leading role in the field of medicine.
4. Individuals with a desire to develop an international perspective, together with a rich intelligence and refinement.

### ●Basic Selection Policy

In order to select the desired types of student as outlined above, selection will be conducted in line with expected periods of enrollment through examinations for enrollment in April and examinations for international students to be held in October.

Examinations take into account both the academic ability and quality of the applicants and consist of written examinations in English and specialization-relevant English, an oral examination in the desired field of specialization, as well as a review of applicant results transcripts and an application essay.

## 1 Number of Applicants to be Admitted

Course	April 2018 Admission
Specialization in Medicine	limited

## 2 Eligibility for Application

- (1) Individuals that have graduated from university courses in medicine or dentistry, or six-year courses in veterinary medicine or pharmacology, or individuals that are scheduled to graduate from such a course by March 2018 .
- (2) Individuals outside of Japan that have completed eighteen (18) years of education (where the final courses undertaken were in medicine, dentistry, pharmacology, or veterinary medicine) or individuals that are scheduled to complete such a course of education by March 2018.
- (3) Individuals that have completed, within Japan, eighteen (18) years of correspondence education offered by a school in a country outside of Japan (where the final courses undertaken were in medicine, dentistry, pharmacology, or veterinary medicine) or individuals that are scheduled to complete such a course of education by March 2018.
- (4) Individuals that have, within Japan, completed a course at a university outside of Japan (limited to cases where the individual has completed eighteen (18) years for education in the applicable non-Japanese country), which is defined as an educational facility under the education system of that country, and have completed other courses as defined by the Minister of Education, Culture, Sports, Science and Technology.
- (5) Individuals that have completed a master's course or individuals that are eligible to be awarded a master's degree who have also studied for two or more years in a doctoral course that does not have a two-year first period / three-year second period structure, have completed thirty (30) or more units, and have undergone the necessary research supervision (including individuals whose situation falls

under Article 6(1) of the degree regulations (1953 Public Notice of the Ministry of Education no. 9), which was in place before the ministerial ordinance that partially amended the degree regulations (1970 Public Notice of the Ministry of Education no. 29) and are deemed to possess at least the equivalent academic ability as someone who has graduated from a graduate school or non-degree course for graduates at a university that offers courses in medicine, dentistry, pharmacology, or veterinary medicine.

- (6) Individuals who, after graduating from a university (excluding courses in medicine, dentistry, pharmacology, and veterinary medicine) or after completing sixteen (16) years of education in a country outside of Japan, have engaged in research at a university, research facility, or similar institution for two years or more and, as a result of such research have, in the context of graduate school courses or non-degree courses for graduates, been deemed to possess equivalent or higher academic ability to individuals who have graduated from university courses in medicine, dentistry, pharmacology, or veterinary medicine.
- (7) Individuals who have attended a university (limited to courses in medicine, dentistry, pharmacology, or veterinary medicine) for four years or more and that this graduate school deems that superior results have been achieved in certain subjects.
- (8) Individuals who have completed sixteen (16) years of education in a country other than Japan (limited to courses in medicine, dentistry, pharmacology, or veterinary medicine) or individuals that have completed, within Japan, sixteen (16) years of correspondence education offered by a school in a country outside of Japan (limited to courses in medicine, dentistry, pharmacology, or veterinary medicine) and have superior results in specific units as defined by this graduate school.
- (9) Individuals who, through an individual examination of admission qualifications, have been deemed by this graduate school to have equivalent or higher academic ability than a university graduate and are of at least twenty-four years of age on March 31, 2018 for April 2018 enrollments.

### **3 Important Notes before You Apply**

Please refer to the list/table of research laboratories (research groups), research areas, research projects and faculty members on the "Major Research Areas" (Page 11) and select your preferred laboratory (research group) in the Program you are applying for.

The applicant must make a pre-application inquiry regarding research projects to research laboratory/ies to which they wish to belong in order to receive supervision for their doctoral thesis, before submitting application documents.

If applicants decide to apply to the University based on the information gained through this pre-application inquiry, they must submit all application documents to the appropriate address as specified hereinafter in "5(3) Address for submitting application documents and references" (Page 4) by the prescribed deadline.

(Please note: even if you have already submitted documents to your preferred laboratory/advisor in the course of your pre-application inquiry, those documents may not be deemed to be the formal application documents, and thus may not be accepted as your application.)

### **4 Individual Review of Admission Eligibility**

Since Individuals are required an individual review of admission eligibility before applying, please submit the required documents by the submission deadline.

#### **(1) Submission Deadline**

October 31, 2017 (Tuesday) (postmarked)

## (2) Documents for Submission

	Document	Comments
1	Application form for review of application eligibility.	University specified format.
2	Results Transcript	Please submit documents that have been created and placed in a sealed envelope by the authorities at your university (undergraduate school). Applicants who have completed (or are scheduled to complete) a master's level course should submit a document prepared by the head of the relevant graduate school and placed in a sealed envelope.
3	Graduation certificate (including prospective graduation/completion)	Please submit the document prepared by the authorities of your university (undergraduate school). (Applicants who have terminated graduate level studies without completion should also submit proof of withdrawal). Applicants who have completed (or are scheduled to complete) a master's level course should submit a document prepared by the head of the relevant graduate school.
4	Study career Certificate	University specified format. * For applicants applying under eligibility criterion (6) and (9)

## (3) Address for Submission

"5(3) Address for submitting application documents and references" (Page 4)

i Please mail by air mail filings.

ii Please contact by e-mail to "5(3) Address for submitting application documents and references " before shipment.

## 5 Application Procedures

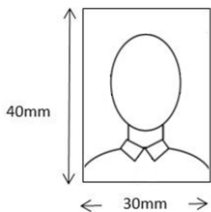
### (1) Acceptance Period for Application Documents

Application documents must postmark between November 16 (Thursday) and November 22, (Wednesday) 2017.

NOTE:

- 1 Please contact your prospective supervisor (refer to Page 11 "Major Research Areas") in advance and discuss your research plans with them before making your application.
- 2 Please contact by e-mail to "5(3) Address for submitting application documents and references " before shipment.
- 3 There is no need to submit the documents submitted during "4 Individual Review of Admission Eligibility" again.
- 4 Those that arrived after the filing deadline cannot be accepted.

### (2) Application Documents

	Document	Comments
1	Application Form	University specified format.
2	Photo	Prepare a photograph (size: 40 mm height x 30 mm width)taken within 3 months of the application, showing your upper body from the front without a hat.  Photo dimensions

3	Health Certificate	University specified format. Please submit those consulted within three months prior to the filing has been created.
4	Research Plan	University specified format. Must be written in English, and should not exceed 1,000 words.
5	List of Publications or Document Showing Other Strength.	Submit a list of publications along with up to three reprints/offprints of your major publications, if available. Excellent academic records; and/or Excellent achievements in a special project in an academic fields.
6	Letter of Reference.	University specified format. Must be written by your current or former academic supervisor or a professor who knows you well. It is also possible to submitted directly to address for submitting application documents by recommender.
7	Examination Fee	The fee is ¥30,000 Please refer to Page 17" Application Fee Payment Instructions (Payment from Abroad)". Please enclose the certificate kinds concerned with examination fee payment (It's possible to copy.) with an application documents.
8	Copy of Residence Card (or similar)	Submit one of the following: <ul style="list-style-type: none"> <li>• Copy of residence card or passport.</li> </ul> Family register from your home country, or official document that corresponds to such.
9	Scholarship Application Form	University specified format. Submit it if you wish to scholarship.

**NOTE:**

- 1 Incomplete applications may not be processed.
- 2 Application documents etc will not be returned.

**(3) Address for submitting application documents and references**

Hamamatsu University School of Medicine, Admissions Division  
Address : 1-20-1 Handayama, Higashi-ku, Hamamatsu, 431-3192, Japan  
TEL: +81-53-435-2205  
E-mail: nyushi@hama-med.ac.jp

## **6 Selection Method**

The selection process for successful applicants consists of a document screening and an interview(as a rule, the interview will be conducted through Internet, for example with Skype.).The interview examination will be scheduled between December 1 2017(Friday) and December 8 2017(Friday), and each applicant will be notified via email.

Applicants are required to secure high-speed internet access at the time of the interview examination. Please describe the account of Skype, etc. to the "Application Form".

## **7 Announcement of Results**

Admission results will be sent by E-mail to the address indicated on your Application Form after January 19, 2018(Friday). Unsuccessful applicants will also be informed at this time.

## **8 Enrollment Procedures**

Successful applicants are to complete enrollment procedures according to the following steps.

Please note that the documents required for enrollment will be sent to all successful applicants.

- i Enrollment documents must be delivered to the university between January 24, 2018 (Wednesday) and January 31, 2018 (Wednesday).

- ii The return of submitted documents or refund of enrollment fees will not be permitted under any circumstances after completion of enrollment procedures.
- iii Completed enrollments will be canceled in the event that the student is unable to graduate or complete their scheduled course of study by the required date.

## 9 Payment

### (1) Amount

Enrollment Fee	¥282,000 (based on 2017 figures)
Tuition Fees- First Semester	¥267,900 (based on 2017 figures)
(Full Year)	¥535,800 (based on 2017 figures)

Tuition fees to be paid after completion of enrollment.

In the event of revision of payment, post-revision amounts will apply.

### (2) Exemptions from Payment

#### i Enrollment Fee Exemptions

Upon application, enrollment fee exemptions may be granted in any of the following cases.

- (a) Where it is deemed that payment is problematic due to economic hardship and the student has a superior academic record( Half of the enrollment fee will be waived).
- (b) Where the person who is, in the main part, responsible for the payment of educational costs passes away within one year prior to enrollment.
- (c) Where the applicant, or the person responsible for payment of educational costs, is the victim of a disaster.
- (d) Where the president of the university deems that an event has occurred that is similar to (b) or (c), above.

#### ii Deferment of Payment of Enrollment Fee

Upon application, permission to defer payment of enrollment fee may be granted in any of the following cases.

- (a) Where it is deemed that payment of the enrollment fee by the deadline is problematic due to economic hardship, and the student has a superior academic record.
- (b) Where the person who is, in the main part, responsible for the payment of educational costs passes away within one year prior to enrollment and it is deemed that payment of the enrollment fee by the deadline is problematic.
- (c) Where the applicant, or the person responsible for payment of educational costs is the victim of a disaster and it is deemed that payment of the enrollment fee by the deadline is problematic.
- (d) In other circumstances where it is deemed that payment of the enrollment fee must be deferred.

#### iii Exemption from Payment of Tuition Fees

Where it is deemed that payment is problematic due to economic hardship and the student has a superior academic record, all or half of the tuition fees may be waived after passing a screening process.

## 10 Privacy Policy

All personal information gathered during application submission, as well as all examination results, will be used for the sole purpose of applicant selection and reviewing of the selection procedures. Further, all personal information collected by this institution will be managed appropriately and in line with all relevant ordinances and other regulations.

## 11 Scholarship and Miscellaneous Benefits

### 1) Scholarship benefits of ¥100,000/per month

(excellent students within each year 10 people, a maximum of four years in the year of evaluation)

### 2) Tuition exemption

(You need to apply for tuition exemption every year.)

### 3) Dormitory

International students are eligible for the residence while in graduate school.

## **Graduate School of Medical Research (Doctoral Course) Overview**

### **1 Objectives**

The Graduate School of Medicine (Doctoral Course) adopts as its objective the cultivation of both researchers who can undertake basic medical research as well as clinical researchers, both of whom can exhibit leadership on the international stage. In other words, through a broad base of courses in specialist fields, centered around the field of advanced optical medicine, we equip students who aim to become basic researchers with high-level specialist knowledge and skills, and cultivate in them the ability to conduct creative and cutting-edge research. Further, we aim to equip students who wish to become clinical researchers with a research mindset to propel clinical research to new levels, and the practical skills desired in real life clinical situations.

### **2 Educational Aims**

1. Cultivate ethical honest human qualities as a researcher.
2. Develop an international perspective, and a rich and refined intellect.
3. Develop problem discovery abilities.
4. Develop problem solving abilities based on a high level of specialist knowledge and skills in the fields of medical science and treatment.
5. Develop the ability to produce academic publications.
6. Cultivate a lifelong stance toward independent academic inquiry.

### **3 Structure**

- (1) Graduate Course, Course, Specialization, and Length of Course
  - i This graduate course is defined as a doctoral course in the Graduate School of Medicine.
  - ii The specialization is defined as medicine.
  - iii The standard length of the doctoral course is four (4) years.

### **4 Overview of Research Fields**

- (1) Advanced Photo Medicine
  - i Overview of Research Field

Light interacts with cells and tissues, allowing us access to a range of information. Accordingly, optical research methods are extremely diverse and are valid in a wide range of areas of medicine. In this field of research, measurement and imaging methods that use light are utilized to their fullest extent, pressing medical challenges are addressed through the operation of light on organisms, and the development of fundamental medical science is embarked upon. At the same time, research that can be of practical use in diagnosis, treatment, and prevention in clinical situations is conducted.

#### **ii Topics**

##### **(a) Photopharmacology**

Development of probes and equipment for treatment and diagnosis that utilize optical technology, in particular the analysis of internal conditions through diagnostic methods that utilize high energy optics, such as X rays and gamma rays. Specifically, this includes activities that utilize radioactive isotopes for the following: imaging of the biological characteristics of cancer and development of methods for cancer diagnosis; imaging of nervous system activity and molecular movement using optical systems (e.g., PET); analysis of genome distribution and protein expression within organisms using optical systems; quantitative analysis of organism function using radioactive probes; development of new MRI contrast agents; development of new imaging methods that utilize high energy optics; research into drug discovery and pharmacokinetic efficacy utilizing optical systems; analysis of the onset and recovery processes of cerebral infarctions using optical systems; and utilization of optical information for the optimization of pharmacotherapy. Additionally, research into the efficacy and safety of medicines through the creation of new disease models that utilize optics is also being conducted.



## (b) Phototherapy Environments

research into the effect of light on organisms and the application of the results of such analysis to treatment methods. Specifically, this includes analysis of ultraviolet ray induced DNA damage and the relationship between gene expression systems in hereditary optic hyperesthesia, light induced skin aging, light induced immunoreaction, research into the prevention of skin cancer caused by ultraviolet rays, use of optics in the development of instant diagnosis (minimally invasive) methods for oral diseases, research for the adaptive expansion of PDT (photochemotherapy) in advanced cancers, development of new PDT methods, and research into clinical applications, research into macular degeneration and retinal photolesions, research into the eye, which is a light receptor, genetic analysis of eye diseases, and new treatment methods that utilize light.

## (c) Optical Functioning Imaging

Research into circulatory dynamics and circulatory disorders of the heart, blood, lymph, and immune system, utilizing optical methods. Specifically, this includes imaging analysis of dynamic changes in blood coagulation factors, as well as thrombogenesis and lysis, analysis of intracellular signal transmission mechanisms, using fluorometric methods, imaging analysis of the intracellular signaling molecules of the myocardial cells and vascular endothelial cells, research utilizing fluorescence hybridization genetic analysis, into the mechanisms through which cancer develops in leukemia and malignant lymphoma, analysis of intracellular information transmission systems in autoimmune diseases using fluorometric methods, blood vessel modeling and imaging analysis of hemodynamics, and the utilization of optics for development of methods for the continuous measurement of all substances in the blood.

With a focus on imaging methods for nerve cells and higher-order neural mechanisms, as well as fluorescent molecule labeling through genetic engineering, research projects that combine methods from molecular biology and electrophysiology are being conducted. Specifically, this includes analysis of neural stem cell activity and cerebral disorders, analysis of the contagion dynamics of neurotropic viruses, analysis of protein molecule kinetics and signal transmission mechanisms of nerve cells, analysis of nerve cell death mechanisms and imaging analysis regarding neuroprotection, analysis through imaging of higher-order nerve adjustment mechanism related cell activity, research into development and plasticity control of neural circuit functioning through active Cl-homeostasis adjustment, research into cerebral function development disorders and cerebral nerve diseases caused by failure of Cl-homeostasis regulatory functions, analysis of the role of inhibitory neurotransmission in the formation of cerebral cortex neural circuits, functional neuroimaging using PET, and elucidation of the state of brain diseases using PET.

Research using mass spectrographic microscopes is also being conducted. This includes imaging of metabolomes and proteomes in cancers, blood vessels, the brain, fats, and internal organs through the MALDI method, that is, through the matrix assisted laser desorption/ionization method.

## (2) Integrated Functional Medicine

### i Overview of Research Field

The coordinated activity of organisms requires movement that integrates higher-order regulatory functions, such as the nervous system and sense organs. In recent years, advances in molecular biology methods and genetic analysis have enabled clarification of the causes of diseases of the nervous system and sense organs - an area that has been slower to develop compared to other fields. As such, this is a field with rich potential for development.

(1) fundamental analysis of the normal functioning of the nervous system and sense organs and (2) causal analysis of disease groups arising from failure of the normal functioning of the nervous system and sense organs, with the aim of developing effective treatment methods.

At present, the analysis methodologies in these fields are wide-ranging, and through the gathering of researchers who are fluent in diverse methodologies, we are in a position to pursue research in an effective and interdisciplinary manner.

## ii Topics

### (a) Brain Function Analysis

The brain is the locus of our mind and the key area that supports human activity. Accordingly, while research in this area is of extreme importance, it also comes with difficulties unique to this field and that are due to complications in conducting such research. We work to overcome such challenges, conducting activities such as fundamental biological research and pathologic analysis of psychiatric disorders (in particular, schizophrenia), understanding the relationship between the number of neural stem cells and cerebral disorders through the use of optical imaging, gene therapy of cerebral tumors through the use of neural stem cells, cloning and analysis of elements that influence the differentiation of neural stem cells, and the morphological analysis of brain disease.

### (b) Sensorimotor Control

The peculiar characteristics of the sense organs and motor system require a specialized research approach for each area. To conduct activities such as PDT for head and neck tumors (in particular, cancer of the laryngopharynx), elucidation of auditory disturbance mechanisms through the use of photosensitized reactions in the examination of inner ear disorders, basic research into peripheral nerve regeneration and cartilage regeneration, analysis of mouse osteoclast mechanisms using VEC-DIC microscopy, basic research for the application of photodynamic therapy for rheumatoid arthritis, and research into the development of emergency devices equipped with three-dimensional visual capabilities (life support robots in bio-hazardous environments).

## (3) Frontier Medicine

### i Overview of Research Field

Through repeated cycles of cell differentiation, organisms transform from one zygote to multicellular organisms and as all areas of the organism interact with one another, organs are formed. Tissue-specific stem cells exist in the tissue of all organs, and while maintaining such stem cells, a high number of differentiated cells peculiar to the organ are created, forming multicellular tissue. Further, every differentiated cell has its own life span, with old cells continuously making way for the new. Even so, as an organism ages, failures can be observed in organ homeostasis and cell order.

In this field, in addition to elucidating (at the molecular, cell, organ cultivation, and individual levels) the control mechanisms for the multiplication and differentiation of cells (which are the building blocks of life) and the formation mechanisms of cell communities of all organs that are composed of multiple types of cells, we also pursue the practical application of research results for the treatment of diseases in humans.

## ii Topics

### (a) Molecular Neoplasia

Cancer is a hereditary disease that presents in a wide variety of ways. Further, cancer displays characteristics that deviate from normal cell communities. On the other hand, susceptibility to cancer is dependent on the interrelation between hereditary and environmental factors. Precancerous lesions develop as a result of genome failures in the individual, which transform due to the instability acquired by the tumor genome, become invasive, cause the failure of the homeostasis of the individual, and finally, its death. At all stages of cell differentiation, tumors develop based on the unique background of the organ concerned. The elucidation, at all stages of tumor development, of what types of precancerous and cancerous tumors emerge when the mechanisms of normal cells fail. By utilizing the genetic susceptibility markers for cancer discovered in such research, we develop prevention methods and targeted treatments that destroy cancerous cells while leaving normal cells unaffected.

### (b) Tissue Regeneration

Tissue is made up of stem cells with particular fates and tissue-specific cells formed by the multiplication and differentiation of such stem cells; all tissues within organisms are made up of unique cells that have a three-dimensional structure. We identify all tissue stem cells, and elucidate the factors involved in the

multiplication and differentiation of such cells. Further, we are conducting research into the development of methods to enable cell transplants of stem cells that have been removed and frozen back into the person they were taken from in the event of tissue loss due to disease. Furthermore, also conducting research aimed at addressing the various challenges, for example organ rejection, in the field of organ transplantation, which is currently receiving much attention.

(c) Organ Pathology

Organs differ in both their component cells and functions. We research organ function from the perspectives of biochemistry, physiology, and molecular biology. Due to the fact that the state of homeostasis failure in organs is an illness, we investigate the mechanisms through which homeostasis failure occurs and promising methods to prevent such failure from occurring. Simply put, we are engaged in research in pursuit of an understanding of disease onset mechanisms, accurate diagnostic methods, and medical treatments.

(4) Infectious Disease Control & Preventive Medicine

i Overview of Specialization

Biological defenses are systems for protecting the organism and maintaining homeostasis in the face of not only external threats but also abnormal events that may occur within the body. This system has developed in a complex manner in accordance with the principle of “the survival of the fittest.” Threats of the former type include infection, trauma, and burns. The latter includes neoplasia, and disturbances in blood flow, for example. This field works toward (1) not only defense mechanisms for the aforementioned, but also the elucidation of (2) their pathophysiology and, furthermore, (3) the conditions of diseases caused by failure of defense mechanisms, through the utilization of the methods of molecular biology, biochemistry, cell biology, and developmental engineering in the pursuit of the development of methods of diagnosis, treatment, and prevention. Furthermore, (4) research into primary prevention and tailor-made treatments based on individual genetic information, and (5) epidemiological research into risk factors for lifestyle related illnesses and preventive medicine research for health promotion in local communities are also being conducted.

ii Topics

(a) Infectious Disease and Immunology

The analysis of immune system and infection defense mechanisms against intracellular parasites (tubercle bacillus, *Listeria monocytogenes*, *Legionella pneumophila*, and chlamydia, etc.), the development of DNA vaccines to prevent infection from intracellular parasites based on such analysis, the development of rapid diagnosis methods for bacteria, and the development of new fast-acting sterilization methods.

With regard to viruses (HCV, HBV, etc.) that persistently infect the organism or host cell and, over the long term, cause, for example, inflammation, metabolic disorder, and oncogenesis, we are particularly interested in elucidating the interactions with host factors, virus life-cycles, and the molecular mechanisms of pathogenic expression. Additionally, we are involved in research into treatment strategies for viral infectious diseases.

Research into antimalarial agent screening and malaria treatment methods is being undertaken. Furthermore, the analysis of the pathophysiology, diagnosis, and treatment of autoimmune diseases, the mechanisms of autoimmune phenomena, and autoantigens, and the analysis of mechanisms of tissue/organ-specific immunological responses in the context of transplant immunity tolerance induction.

(b) Preventive Medicine

With a foundation in contributing objective evidence-based health care, various research programs relating to public health and epidemiology, as well as clinical laboratory medicine.

Study subjects include lifestyle related illnesses, the elderly, maternal and child health, mental health, suicide and accidents, and industrial health. One example project is a cohort study that investigates the effects of lifestyle and socioeconomic factors. The fields of health crisis management, health administration, medical hydrology, and regional medical systems.

Additionally, focusing on genes, proteins, cells, tissue, and internal organs, we work to elucidate pathological mechanisms, such as malignant tumors, lifestyle related diseases, and infectious diseases, and to

develop diagnostic and treatment methods for such. As the onset of illness can be thought of as related to a complex interrelation of genetic and environmental factors, we conduct research into the genetic, environmental, and epigenetic backgrounds of illness. Based on such research activities, we are also conducting research into the practical implementation of fundamental preventive medicine.

(c) Information for Crisis Management Medicine

The analysis of biological defense mechanisms in reaction to stress and the discovery of methods for the monitoring of such, suppression of biological reactions due to over-response, analysis of variations in defense mechanisms due to genetic polymorphism and the clinical application of such knowledge, setting of clinical guidelines based on EBM for acute phases of diseases, collection and analysis of regional data regarding emergency treatment of trauma, development of new educational tools that are adaptable to individual ability levels, development of new diagnostic tools to enable the analysis of diseases in the acute phase, and analysis of medical errors.

Conducting development projects, such as development of hypersensitive equipment for analyzing medicinal toxicants in human samples, in other words, the development of new methods for extracting all substances from human samples, analytical research based on mass spectrometry analysis of biomolecules, and development of high volume gas chromatography.

## 5 Course Registration

Please conduct your course registration having taken into account the course registration method and completion requirements in the subject listings and after adequate consultation with your supervisor. The fundamental selection structure is as follows, but please note that other structures are possible.

(1) Researcher Course

- i Register for “Advanced Foundations of Medical Science” (2 Units).
- ii Select 4 subjects (8 Units) marked with an asterisk (\*) from the common subject or specialist subject list.
- iii Select “Seminar” subjects A and B (1 subject each).
- iv Register for “Practical Training.”

\*It is recommended that you enroll for the seminars instructed by your supervisor and secondary supervisor.

(2) Clinical Researcher Course

- i Select 2 subjects (4 Units) from “Advanced Foundations of Medical Science” I, II, and III.
- ii Register for “Medical Ethics” and “Genetic Medicine and Regenerative Medicine” (4 Units).
- iii Select 1 subject from the common subject list.
- iv Select “Seminar” subjects A and B (1 subject each).
- v Register for “Practical Training.”

\*It is recommended that you enroll for the seminars taught by your supervisor and assistant supervisor.

## Major Research Areas

\* When you email, please add “@hama-med.ac.jp” at the end of the professors’ email addresses (For example, “hamamatsu” should be replaced with “hamamatsu@hama-med.ac.jp”).

### Advanced Photomedicine

Department	Name	E-mail	Main Research Content
Pharmacology	Kazuo UMEMURA	umemura	<ul style="list-style-type: none"> <li>○ Investigation of mechanisms of thrombosis</li> <li>○ Investigation of development of cerebral infarction</li> <li>○ Investigation of mechanisms of arteriosclerosis</li> <li>○ Investigation of mechanisms of arteriosclerosis induced by transplantation</li> <li>○ Pharmacological research using imaging techniques</li> <li>○ Translational research from basic research to clinical use</li> </ul>
Diagnostic Radiology & Nuclear Medicine	Harumi SAKAHARA	sakahara	<ul style="list-style-type: none"> <li>○ Hemodynamic analysis by MRI</li> <li>○ Imaging application of near-infrared spectroscopy</li> <li>○ Research on molecular imaging by CT, MRI, and PET</li> <li>○ Nuclear medicine approach to cancer diagnosis and therapy</li> </ul>
Clinical Pharmacology & Therapeutics	Hiroshi WATANABE	hwat	<ul style="list-style-type: none"> <li>○ Pharmacogenomics and precision medicine</li> <li>○ Clinical pharmacology in cardiovascular medicine</li> <li>○ Regulatory science for new drug development</li> <li>○ Intracellular Signaling and functional regulation of vascular cells</li> <li>○ Clinical assessment of vascular functions</li> <li>○ Pulmonary arterial hypertension and new treatment development</li> </ul>
Preeminent Medical Photonics Education & Research Center (Department of Molecular Imaging)	Yasuhiro MAGATA	ymagata	<ul style="list-style-type: none"> <li>○ Multimodal molecular imaging studies</li> <li>○ Development of novel PET/SPECT molecular imaging probes for patho-functional analysis</li> <li>○ Development of novel fluorescence molecular imaging probes</li> <li>○ Development of novel theranostic method using DDS system for cancer or inflammation lesion</li> </ul>
Integrated Human Sciences (Chemistry)	Chuzo FUJIMOTO	fujimoto	<ul style="list-style-type: none"> <li>○ Development of medical chips</li> <li>○ High sensitive monitoring of environment-related substances</li> <li>○ Development of microscale solid phase extraction devices</li> <li>○ Bioassay based on capillary electrophoresis</li> <li>○ Design of new stationary phases for HPLC</li> </ul>
Hospital Pharmacy	Junichi KAWAKAMI	kawakami	<ul style="list-style-type: none"> <li>○ Development of sensitive and fast analytical method of drugs in human biological specimens</li> <li>○ Pharmacokinetic analysis and its prediction in drug-drug interactions and adverse effects</li> <li>○ Clinical pharmacokinetics and pharmacology in infectious disease, cancer chemotherapy, and palliative care</li> <li>○ Medical informatics and pharmacoepidemiology for the drug safety measure and rational use</li> </ul>
Surgery 2 (Divisions of Gastroenterological & Vascular Surgery)	Hiroya TAKEUCHI	takeuchi	<ul style="list-style-type: none"> <li>○ Cancer metastasis: mechanisms and novel therapy</li> <li>○ Translational research regarding interaction between cancer cells and matrix</li> <li>○ Navigation surgery utilizing three-dimensional imaging</li> <li>○ Identification of mechanisms of bowel movement and development of novel drugs</li> <li>○ Pathogenesis of hereditary bowel diseases</li> <li>○ Aortic aneurysm: identification of pathogenesis and novel therapy development</li> <li>○ Lymphatic perfusion on physiological or pathological conditions</li> <li>○ Thrombosis: clarification of the pathogenesis and development of the prevention</li> <li>○ Tissue oxygen metabolism : investigation of pathogenesis and development of novel evaluation methods</li> <li>○ Lipid metabolisms in cancer tissue</li> </ul>
Dermatology	Yoshiki TOKURA	tokura	<ul style="list-style-type: none"> <li>○ Atopic dermatitis and skin barrier system</li> <li>○ Mechanism of photoallergy</li> <li>○ Immunological mechanism of psoriasis</li> <li>○ Immunological monitoring of melanoma</li> <li>○ Pathogenesis of drug hypersensitivity</li> <li>○ Cellular biology of cutaneous lymphoma</li> <li>○ Mode of infection of HTLV-1 and dendritic cells</li> </ul>
Ophthalmology	Yoshihiro HOTTA	hotta	<ul style="list-style-type: none"> <li>○ Molecular mechanisms of incurable ocular diseases</li> <li>○ The genetic diagnosis of incurable ocular diseases</li> <li>○ Clinical studies on therapies for retinitis pigmentosa</li> <li>○ Physiological study on amblyopia</li> <li>○ Eye movement study with imagings</li> <li>○ Study of strabismus treatment</li> </ul>
Dentistry & Oral & Maxillofacial Surgery	Fuminori KATOU	katou	<ul style="list-style-type: none"> <li>○ Development of diagnosis and therapy of oral cancer using laser</li> <li>○ Molecularbiological research of oral cancer</li> </ul>

## Advanced Photomedicine

Department	Name	E-mail	Main Research Content
Preeminent Medical Photonics Education & ResearchCenter (Department of Photomedical Genomics)	Shinsei MINOSHIMA	mino	<ul style="list-style-type: none"> <li>○ Search of glaucoma-causative genes and analysis of their pathogenic mechanism</li> <li>○ Study of the onset mechanism of age-related macular degeneration (AMD) using an animal model for retinal photic injury which mimics the pathogenicity of AMD</li> <li>○ Functional analysis of OPTN, a causative gene for glaucoma and Amyotrophic Lateral Sclerosis</li> <li>○ Search of genes responsible for genetic eye/ear diseases and analysis of mutation-phenotype relationship</li> <li>○ Construction of a database, MutationView, for the genetic variation and phenotype associated with human individual differences including hereditary diseases</li> </ul>
Neurophysiology	Atsuo FUKUDA	axfukuda	<ul style="list-style-type: none"> <li>○ Neuronal and brain development promoted by Cl<sup>-</sup> homeostasis-regulating genes</li> <li>○ Cl<sup>-</sup> homeodynamics governing neural network functions</li> <li>○ Dysregulation of Cl<sup>-</sup> homeostasis underlying neurological, psychiatric and developmental disorders</li> <li>○ maternal stress, maternal undernutrition, genetically modified mice, GABA, taurine, astrocyte, neurogenesis, neuronal migration</li> <li>○ brain slice, cell culture, patch-clamp, optical imaging, 2 photon microscopy, EEG analysis, behavioral tests, photo-uncaging</li> <li>○ molecular biological techniques, single-cell RT-PCR, in utero electroporation, virus vector, RNAi, optogenetics, pharmacogenetics, DNA methylation</li> </ul>
Medical Physiology	Tetsumei URANO	uranot	<ul style="list-style-type: none"> <li>○ Real time imaging analyses of the mechanisms of platelet activation, coagulation and fibrinolysis.</li> <li>○ Imaging analysis of tissue plasminogen activator secretory dynamics from vascular endothelial cells.</li> <li>○ Analysis of the role of PAI-1 in angiogenesis using PAI-1 deficient iPS cells.</li> <li>○ Etiological study on aneurysm formation and its rupture.</li> <li>○ Analysis of the role of plasminogen in inflammation.</li> <li>○ Studies on the function and the conformation of the proteins involved in fibrinolysis.</li> </ul>
Regenerative & Infectious Pathology	Toshihide IWASHITA	toshiwa	<ul style="list-style-type: none"> <li>○ Pathobiology of organ fibrosis</li> <li>○ Identification of mesenchymal stem cells and their application to medical treatment</li> <li>○ Biological analysis of neural crest stem cells</li> <li>○ Analysis of the infection mechanism into the nerve cells of the cytomegalovirus</li> <li>○ Relationship between cytomegalovirus and interstitial pneumonia</li> </ul>
Internal Medicine 3 (Divisions of Cardiology, Hematology & Rheumatology)	Yuichiro MAEKAWA	ymaekawa	<ul style="list-style-type: none"> <li>○ Mechanism and mitochondrial function of myocardial ischemia/reperfusion injury</li> <li>○ The changes and the mechanism of contraction-relaxation coupling in failed myocardium</li> <li>○ Hypertrophic cardiomyopathy: identification of pathogenesis and development of novel therapy</li> <li>○ The molecular biological analysis of causal gene in leukemia</li> <li>○ The analysis of differentiation-inducing therapy and apoptosis in leukemia cells</li> <li>○ The analysis of multi-drug resistance in hematological malignancies</li> <li>○ Analysis of interferon-associated genes in Sjogren's syndrome</li> <li>○ Study of remission maintenance therapy in rheumatoid arthritis</li> <li>○ Study of malignancy development in autoimmune diseases</li> </ul>
Preeminent Medical Photonics Education & ResearchCenter (Department of Biofunctional Imaging)	Yasuomi OUCHI	ouchi	<ul style="list-style-type: none"> <li>○ Brain research with PET, MRI and NIRS technologies</li> <li>○ Functional and molecular imaging for brain disorders</li> <li>○ In vivo imaging of mind in humans</li> <li>○ Development of new in vivo imaging devices and methods</li> <li>○ Translational research from animals to humans</li> </ul>
Cellular & Molecular Anatomy	Mitsutoshi SETOU	setou	<ul style="list-style-type: none"> <li>○ Challenge to rejuvenescence through understanding the life of multicellular organisms</li> <li>○ Development and application of light-based quantum imaging techniques including mass microscopy</li> <li>○ Observation and manipulation of postgenome conditions such as posttranslational modifications, lipids, and metabolites</li> </ul>
Preeminent Medical Photonics Education & ResearchCenter (Department of Innovative Medical Photonics)	(vacancy)		<ul style="list-style-type: none"> <li>○ Development of the system for minimally invasive surgery</li> <li>○ Application to the medicine of the advanced optics imaging</li> <li>○ Technological advances of microscopes and endoscopes</li> <li>○ Basic researches of the ischemia-tolerance and translational researches to the clinical application</li> <li>○ Researches of the mechanisms for ischemic neuronal death and excitotoxicity</li> <li>○ Basic researches of the photo-therapy for the cancer</li> </ul>
Preeminent Medical Photonics Education & ResearchCenter (Department of Biomedical Optics)	Yoko HOSHI	yhoshi	<ul style="list-style-type: none"> <li>○ Development and application of diffuse optical tomography (optical CT)</li> <li>○ Development of fluorescence tomography and molecular imaging of living subjects</li> <li>○ Research on light propagation in biological tissue with numerical and experimental approaches</li> <li>○ Research in brain function with NIRS, fMRI, and eye-tracking recording system</li> <li>○ Neural mechanisms of human emotion generation and regulation</li> <li>○ Research on oxygen dynamics in biological tissue with NIRS</li> <li>○ Brain monitoring in neonates and infants with optical techniques</li> </ul>

## Integrated Functional Medicine

Department	Name	E-mail	Main Research Content
Department of Organ & Tissue Anatomy	Kohji SATO	ksato	<ul style="list-style-type: none"> <li>○ Analysis of navigation system of nervous, vascular and lymphatic system during development</li> <li>○ Mechanisms of vascular diseases, atherosclerosis, aneurysm and lymphangiopathy, and their therapies.</li> <li>○ Analysis of neuronal homeostasis in adult brain</li> <li>○ Analysis of new neurosecretory factors on ischemic stroke</li> <li>○ The brain-gut connection - Analysis of the interdependence of the brain environment</li> <li>○ Development and modification of histological and morphological methods.</li> <li>Improvement for more effective educational methods in the anatomical science.</li> </ul>
Psychiatry	Hidehiko YAMASUE	yamasue	<ul style="list-style-type: none"> <li>○ Multimodal neuroimaging studies to uncover the pathophysiology of psychiatric disorders including autistic social communicational deficits, eating disorder, mood disorder, and schizophrenia.</li> <li>○ Applications of objective and quantitative analyses of facial expression and voice production to assess psychiatric symptoms.</li> <li>○ Molecular neuroimaging studies to uncover neurobiological mechanisms of psychiatric symptoms.</li> <li>○ Development of neuroimaging indices and objective and quantitative behavioral indices to assess therapeutic effects on psychiatric symptoms.</li> <li>○ Independent clinical trials to develop novel treatments on currently untreatable psychiatric symptoms</li> </ul>
Neurosurgery	Hiroki NAMBA	hnamba	<ul style="list-style-type: none"> <li>○ Pathophysiology and treatment of brain tumors</li> <li>○ Molecular biology of brain tumors</li> <li>○ Cerebral blood flow and metabolism</li> <li>○ Functional neurosurgery</li> <li>○ Basic and clinical research on cerebrovascular disorders</li> <li>○ Gene therapy of brain tumors</li> <li>○ Regenerative medicine of the brain</li> </ul>
Orthopedic Surgery	Yukihiro MATSUYAMA	spine-yu	<ul style="list-style-type: none"> <li>○ Spinal cord regeneration estimated by molecular biology</li> <li>○ Revolution of intraoperative spinal cord monitoring</li> <li>○ Basic and clinical research for limb lengthening</li> <li>○ Basic and clinical research for osteoporosis</li> <li>○ Basic and clinical research for regeneration of cartilage</li> <li>○ Basic and clinical research for rheumatoid arthritis</li> </ul>
Otorhinolaryngology/Head & Neck Surgery	Hirofumi MINETA	mineta	<ul style="list-style-type: none"> <li>○ Pathological analysis of the cochlea(Electronic microscope,Immunoelectronic microscope)</li> <li>○ Basic analysis of inner ear circulation and hearing loss</li> <li>○ Mass spectrometry of head and neck tumor</li> <li>○ Genetic analysis of head and neck carcinogenesis</li> <li>○ The speech recognition of hearing aid and cochlear implant</li> </ul>
Anesthesiology & Critical Care Medicine	Yoshiki NAKAJIMA	nakayos	<ul style="list-style-type: none"> <li>○ Studies for cerebral aneurysm(mechanism&amp;prevention)</li> <li>○ Pharmacokinetic of anesthetic drugs during cardiovascular surgery</li> <li>○ Studies for ischemia/reperfusion injury</li> <li>○ Studies for cardio pulmonary resuscitation</li> <li>○ Clinical studies for painless labor</li> <li>○ Microcirculation during septic shock</li> </ul>

## Frontier Medicine

Department	Name	E-mail	Main Research Content
Molecular Biology	Masatoshi KITAGAWA	kitamasa	<ul style="list-style-type: none"> <li>○ Molecular basis of cell fate determination via cell cycle regulation</li> <li>○ Molecular mechanisms of ubiquitin-mediated proteolysis</li> <li>○ DNA replication and checkpoint as DNA damage responses</li> <li>○ Molecular mechanisms of X-chromosome inactivation</li> <li>○ Molecular mechanisms of inflammation and tissue fibrosis</li> <li>○ Regulation of gene expression by non-coding RNAs and conformational changes of chromatin</li> <li>○ Molecular mechanisms of tumorigenesis, cell differentiation and senescence via cancer-related genes</li> <li>○ Molecular basis of hepatocarcinogenesis via HBV</li> </ul>
Tumor Pathology	Haruhiko SUGIMURA	hsugimur	<ul style="list-style-type: none"> <li>○ Gene, environment, and phenotype correlation of human solid tumors</li> <li>○ Genetic susceptibility and adductomics analysis of gastrointestinal and respiratory cancer</li> <li>○ Genomic and chromosomal instability of human tumor and associated genes</li> <li>○ Oncotargets in terms of molecular pathology of human tumors</li> </ul>
Radiation Oncology	Katsumasa NAKAMURA	nakam	<ul style="list-style-type: none"> <li>○ Analysis of treatment outcome of radiation therapy</li> <li>○ Development of treatment method of precise radiation therapy</li> <li>○ Patterns of care study for radiation therapy</li> <li>○ Study of adverse effects after radiation therapy</li> </ul>
Clinical Oncology	Yasuhide YAMADA	yayamada	<ul style="list-style-type: none"> <li>○ Chemotherapy and chemoradiotherapy</li> <li>○ Reverse translational research, predictive and prognostic markers</li> <li>○ Pharmacogenomics</li> <li>○ Clinical trial</li> <li>○ Palliative care</li> </ul>
Biochemistry	Hiroto SAITSU	hsaitsu	<ul style="list-style-type: none"> <li>○ Genetic analysis of neurodevelopmental disorders by next generation sequencing</li> <li>○ Generation of cell and mouse model mimicking human mutations</li> <li>○ Elucidating pathomechanisms of human disorders</li> <li>○ Identification of somatic mutations involved in human disorders</li> <li>○ Investigating mechanisms of cell death regulation by Patched1</li> </ul>
Obstetrics & Gynecology	(vacancy)	sugihara	<ul style="list-style-type: none"> <li>○ Development research of new photodynamic therapy.</li> <li>○ Research on mechanisms of cervical ripening.</li> <li>○ Tumor targeting by a carbohydrate ligand-mimicking peptide.</li> <li>○ Development of pro-apoptotic peptides as potential therapy for endometriosis.</li> <li>○ Signal transduction in human embryo implantation.</li> <li>○ Development research of new sperm activator.</li> <li>○ Research of fetal environments and adult-onset diseases.</li> <li>○ Pathologic condition analysis of angiospastic syndrome in pregnancy.</li> <li>○ Research on etiological mechanisms of amniotic fluid embolism.</li> <li>○ Research on Developmental Origins of Health and Disease.</li> </ul> <p>※ Research contents are subject to change.</p>



## Frontier Medicine

Department	Name	E-mail	Main Research Content
Pediatrics	Tsutomu OGATA	tomogata	<ul style="list-style-type: none"> <li>○ Molecular studies in disorders of sex development, maturation defects, growth failure, and congenital malformation syndrome.</li> <li>○ (Epi)genetic mechanisms leading to the development of human imprinting disorders</li> <li>○ Genomic epidemiology on the influences of environmental chemicals on child health</li> <li>○ Therapeutic intervention studies in neonates</li> <li>○ Mechanisms on fetal and placental growth and development</li> <li>○ Risk of genetic perturbations in assisted reproductive technology</li> <li>○ Biophysiology of childhood circulation</li> <li>○ Electrolyte metabolites and water balance in pediatric nephrology</li> <li>○ Clinical studies in pediatric neurology</li> <li>○ Genomic and epigenomic studies in pediatric cancers</li> <li>○ Proactive studies on genomic and epigenomic factors in pediatric allergy</li> <li>○ Physiological and pharmacological properties in childhood solid tumors</li> <li>○ Changes in physiological, hormonal, and immunological status after bone marrow transplantation</li> </ul>
Integrated Human Sciences (Biology)	Takahiko HARIYAMA	hariyama	<ul style="list-style-type: none"> <li>○ "Umwelt" and Vision</li> <li>○ Photoreceptor and visual perception</li> <li>○ Lipid raft in a photoreceptor membrane and signaling regulation</li> <li>○ Photoprocesses, Photoreceptors and Evolution</li> <li>○ Biomimetics: forecasting the future of medical materials</li> <li>○ Animal behavior and environmental factors</li> <li>○ Biomimetic thin films "NanoSuit" for biological and medical research</li> </ul>
Internal Medicine 1 (Divisions of Gastroenterology, Nephrology & Neurology)	Hiroaki MIYAJIMA	miyajima	<ul style="list-style-type: none"> <li>○ Pathophysiology of acute kidney injury</li> <li>○ Pathophysiology of disorders of intrarenal renin-angiotensin systems</li> <li>○ The development of understanding and treatment of pathogenic mechanism of neurodegenerative diseases</li> <li>○ Genomic analysis of neurological metabolic disorders</li> <li>○ Gastrointestinal disease and <i>Helicobacter pylori</i> infection</li> <li>○ Mucosal immunology and inflammatory bowel disease</li> <li>○ The development of early diagnostic methods and multidisciplinary therapy in gastrointestinal cancer</li> </ul>
Internal Medicine 2 (Divisions of Endocrinology & Metabolism, Respiratory & Hepatology)	Takafumi SUDA	suda	<ul style="list-style-type: none"> <li>○ Functional analyses of nuclear hormone receptors</li> <li>○ Etiologies of resistance to thyroid hormone</li> <li>○ Signal transduction mechanism of hypothalamic and pituitary hormones</li> <li>○ Mechanisms of insulin resistance</li> <li>○ The local immune response in the lung</li> <li>○ Research for lung dendritic cells</li> <li>○ The mechanisms for hepatic injury and fibrogenesis</li> </ul>
Surgery 1 (Divisions of Cardiovascular, Thoracic, General (Endoscopic) & Breast Surgery)	Norihiko SHIYA	shianor	<ul style="list-style-type: none"> <li>○ Mechanism of carcinogenesis</li> <li>○ Optical imaging for mammography</li> <li>○ Flow dynamics of aortic aneurysms</li> <li>○ Mechanism and prevention of ischemic spinal cord injury</li> <li>○ Development of novel video-assisted surgery</li> <li>○ Pathophysiology of SIRS and sepsis</li> </ul>
Urology	Hideaki MIYAKE	hmiyake	<ul style="list-style-type: none"> <li>○ Basic and clinical studies on urological cancers</li> <li>○ Assessment of the biomarkers for early detection and development of the novel therapy in renal cell carcinoma</li> <li>○ Clinical study of mechanism regulating the rejection and acquisition of immune tolerance after renal transplantation</li> <li>○ Basic and clinical studies on the mechanism regulating the occurrence of urinary calculus</li> <li>○ Basic and clinical studies on lower urinary tract dysfunction</li> </ul>

# Infectious Disease Control and Preventive Medicine

Department	Name	E-mail	Main Research Content
Bacteriology & Immunology	Toshinobu HORII	horii	<ul style="list-style-type: none"> <li>○ Study on bacterial or fungal pathogenicity and drug resistance</li> <li>○ Study on diagnosis and therapy for infectious diseases</li> <li>○ Development of vaccine for bacterial infectious diseases</li> <li>○ Study on infection control and prevention</li> </ul>
Virology & Parasitology	Tetsuro SUZUKI	tesuzuki	<ul style="list-style-type: none"> <li>○ Mechanisms of viral genome replication</li> <li>○ Mechanisms of viral particle formation</li> <li>○ Mechanisms of viral oncogenesis</li> <li>○ Mechanisms of metabolic disorders caused by viral infection</li> <li>○ Development of animal models of viral diseases and their application</li> <li>○ Pathogenesis of parasitic infectious diseases</li> <li>○ Development of anti-malaria drugs</li> </ul>
Laboratory Medicine	Masato Maekawa	mmaekawa	<ul style="list-style-type: none"> <li>○ Technology development of genetic analysis</li> <li>○ Laboratory diagnosis for pathophysiology</li> <li>○ Serum enzyme abnormalities</li> <li>○ Molecular diagnosis for cancer</li> <li>○ Etiological and case study for hospital infection</li> <li>○ Primary care genetics</li> <li>○ Laboratory diagnosis for infection</li> <li>○ Mechanism of action of thyroid hormone</li> <li>○ Translational research for endocrine metabolic diseases</li> <li>○ Biomarker for chronic respiratory disorders</li> <li>○ Regulation of allergen specific antibody production</li> <li>○ Immune response of pulmonary mycosis</li> </ul>
Community Health & Preventive Medicine	Toshiyuki OJIMA	ojima	<ul style="list-style-type: none"> <li>○ Cohort studies on noncommunicable diseases (NCDs) and disability prevention</li> <li>○ Studies on social determinants of health and social capital</li> <li>○ Studies on health emergency management and disaster health</li> <li>○ Studies on maternal and child health</li> <li>○ Studies on public health administration and medical system</li> <li>○ Studies on nutrition and diet</li> <li>○ Studies on occupational health</li> <li>○ Studies on infectious diseases prevention and control</li> <li>○ Studies on spatial epidemiology</li> <li>○ Other epidemiological and public health studies</li> </ul>
Legal Medicine	Kanako WATANABE	kanako	<ul style="list-style-type: none"> <li>○ Research of sensitive analytical procedures for toxic compounds and drugs by mass spectrometry.</li> <li>○ Developing of post column switching large volume injection for GC-MS.</li> <li>○ Investigation of relationship between cyanide compounds in <i>Sugihiratake (Pleurocybella porrigens)</i> and acute encephalitis.</li> <li>○ Simultaneous sensitive screening of toxic compounds and medicines by MALDI-TOF-MS.</li> <li>○ Developing sensitive analytical procedures especially for quantitation of cathinones and synthetic cannabinoids in human specimens by LC-MS-MS, GC-MS.</li> </ul>
Emergency & Disaster Medicine	Atsuto YOSHINO	yoshino	<ul style="list-style-type: none"> <li>○ New device for the measurement of tissue oxygen saturation</li> <li>○ Use of the end-tidal carbon dioxide concentration measurement for the treatment</li> <li>○ Research of emergency and disaster medicine using drone and artificial intelligence</li> <li>○ Development of new cardiopulmonary resuscitation</li> <li>○ Disaster medical care education for citizens</li> </ul>
Medical Informatics	Michio KIMURA	kimura	<ul style="list-style-type: none"> <li>○ Medical Imaging and Radiological Systems</li> <li>○ Standardization of Medical Informatics</li> <li>○ Medical Object-oriented Technology</li> <li>○ Electronic Health Records</li> <li>○ Medical Knowledge Representation</li> </ul>

### APPLICATION FEE PAYMENT INSTRUCTIONS (Payment from Abroad)

If you want to transfer the examination fee from abroad, please refer to the following. Please enclose the certificate kinds concerned with examination fee payment (It's possible to copy.) with an application documents.

You will pay ¥ 30,000. Payment should be made in Japanese yen only, and the transfer fee required by the overseas financial institution should be paid individually. A remittance check is not acceptable.

\* It should be noted that the examination fee alone (without the handling and transfer fees) does not cover the necessary amount for you to take the examination.

■ Bank name, SWIFT code, Branch name and Branch address	
Bank Name:	SUMITOMO MITSUI BANKING CORPORATION
Swift Code:	SMBCJPT
Branch Name:	Hamamatsu
Branch Address:	325-6 Sunayama-cho, Naka-ku, Hamamatsu, 430-0926, Japan
■ Name, account number, address of payee, and Phone of Payee	
Name of Payee:	National University Corp, Hamamatsu University School of Medicine Kenteiryoguti
Account Number:	6941602
Account Type:	Saving
Address of Payee	1-20-1 Handayama, Higashi-ku, Hamamatsu, 431-3192, Japan
Phone of Payee	+81-53-435-2205
In addition, fill out the following information if necessary.	
Purpose of Remittance:	Application Fee
Message to Payee, if any:	Your name

Hamamatsu University School of Medicine  
Graduate School of Medicine & Nursing Doctoral Degree Program  
浜松医科大学大学院医学系研究科（博士課程）  
Application for the examination indicating the eligibility to take the entrance examination  
入学試験出願資格審査申請書

※審査の対象区分

氏名 Full Name					性別 Sex (男 (M) ・女 (F) )
Address etc. 住所等	Phone Number (Even a cell-phone number is okay.) 電話番号（携帯電話でも可）				
Date of birth 生年月日					Age 年齢( )
Prospective supervisor 予定指導教員					
Educational Background(Foreign students, please fill from the elementary school) 学歴					
Education 学校教育	Name of School 学校名		Officially Required Number of Years of schooling 正規の修学年数	Year and Month of Entrance and Completion 入学及び卒業年月	Period of Schooling 修業年数
Elementary Education 初等教育 Elementary School 小学校			yrs 年	from 入学  to 卒業	yrs 年
Secondary Education 中等教育 Secondary School 中学及び高校	Lower 中学		yrs 年	from 入学  to 卒業	yrs 年
	Upper 高校		yrs 年	from 入学  to 卒業	yrs 年
Higher Education 高等教育 Undergraduate Level 大学			yrs 年	from 入学  to 卒業	yrs 年
Higher Education 高等教育 Graduate Level 大学院			yrs 年	from 入学  to 卒業	yrs 年
通算年数※				Total no. of years	

Hamamatsu University School of Medicine  
Graduate School of Medicine & Nursing Doctoral Degree Program  
浜松医科大学大学院医学系研究科（博士課程）  
Application for the examination indicating the eligibility to take the entrance examination  
入学試験出願資格審査申請書

Study Career 研究歴		
Research Institute 研究機関名	Study Duration 研究期間	Number of years 年数
通算年数※		Total no. of years
License etc. 免許・資格		
Please fill in describe your motivation and purpose in applying for a doctoral degree (Purpose and contents of the study) .博士の学位取得を希望する動機（研究目的・内容）を記入してください。		

Please do not fill out the space with the ※mark. （注）※欄は、記入しないでください。

# Study Career Certificate

## 研究歴証明書

Full Name : \_\_\_\_\_  
(氏 名)

Date of Birth \_\_\_\_\_  
(生 年 月 日) (Year) (Month) (Day)

The above person proves to have a study career as follows.

上記の者は、下記のとおり研究歴を有することを証明する。

記

The Tenure and Institutions, Department Name and Identification 在職した機関、部局名及び身分	
Research Institute 研究機関	Year Month Day Year Month Day Year (something Month) 年 月 日 ~ 年 月 日 ( 年 か月間)
Research Topic and Research Content 研究題目及び研究内容	
Supervisor (Job-Name) 指導教員 (職・氏名)	

Year Month Day  
年 月 日 (Fill in Date)

Address \_\_\_\_\_  
(所在地)

Institution Nar \_\_\_\_\_  
(機関名)

Job Title: \_\_\_\_\_  
(職 名)

Full Name \_\_\_\_\_  
(氏 名)

Prover is the head of the institutions (president, dean, etc.).  
(注)証明者は、機関の長(学長、学部長等)とする。

Admission application form of Hamamatsu University School of Medicine  
Graduate School of Medicine & Nursing Doctoral Degree Program  
浜松医科大学大学院医学系研究科（博士課程）入学志願票

Desired Enrollment Term 入学希望時期	April 2018 平成 30 年 4 月				Examinee's number ※受験番号
Full Name フリガナ 氏 名					
					Date of birth 生年月日
Photograph 写真					
Educational Background 学歴					
University 大 学					
Graduate School 大学院					
Others その他					
Prospective supervisor 予定指導教員					
Address(Phone Number) 住所（連絡先）					
Yours 本 人	E-mail Address ( ) Telephone number ( ) Skype ID ( )				
Parents etc. 父 母 等	Telephone number ( )				

- (注) 1. Please refer レ point to □ of the applicable matter.  
 該当する事項の□にレ点を付してください。  
 2. Please do not fill anything in the space with the ※mark.  
 ※欄は、記入しないでください。  
 3. Please fill the information you think is essential for communication in the Address (Phone Number) section. A cell-phone number can be provided instead of the phone number.  
 住所（連絡先）の本人欄は必ず連絡が取れる所とし、電話番号は携帯番号でも可とします。

Admission application form of Hamamatsu University School of Medicine  
Graduate School of Medicine & Nursing Doctoral Degree Program  
浜松医科大学大学院医学系研究科（博士課程）入学志願票

Personal History 履 歴 事 項			
University Educational Background 学歴 (大学入学から記入)			
Year 年	Month 月	Day 日	
年	月	日	
年	月	日	
年	月	日	
年	月	日	
年	月	日	
Employment Record 職歴			
Year 年	Month 月	Day 日	
年	月	日	
年	月	日	
年	月	日	
年	月	日	
年	月	日	
年	月	日	
年	月	日	
License etc 免許・資格			
Year 年	Month 月	Day 日	
年	月	日	
年	月	日	
Reward and punishment 賞罰			



Hamamatsu University School of Medicine  
Graduate School of Medicine & Nursing Doctoral Degree Program  
浜松医科大学大学院医学系研究科（博士課程）

## Research Plan

### 研 究 計 画 書

Full Name フリガナ 氏 名		※ Examinee's number 受験番号
Research theme〔研究課題〕		
Research Plan〔研究計画〕 Must be written in English, and should not exceed 1,000 words. ※1000 文字以内の英語で記入してください。		

(注) Please do not fill anything in the space indicated with a ※mark.  
※欄は、記入しないでください。

# LETTER OF RECOMMENDATION

(推薦書)

To the President of Hamamatsu University School of Medicine

(浜松医科大学長殿)

Applicant's

Full name : \_\_\_\_\_

(被推薦者氏名)

Date of birth : \_\_\_\_\_

(生年月日)

Nationalty : \_\_\_\_\_

(国籍)

1. Please evaluate the level of applicant's English language proficiency and mark ✓ where appropriate in following blanks.

(被推薦者の英語能力を評価の上、該当欄に記入してください)

	Excellent (優)	Good (良)	Fair (可)
Reading (読む能力)			
Writing (書く能力)			
Speaking (話す能力)			

2. Please describe the reasons why you recommend the applicant. (推薦の理由を書いてください)

Date : \_\_\_\_\_

(日付) (day) (month) (year)

Recommender (推薦者)

Full name in block letters : \_\_\_\_\_

(ブロック体による氏名)

Signature : \_\_\_\_\_

(署名)

Title and name of institution : \_\_\_\_\_

(役職と所属機関の名称)

Address of institution : \_\_\_\_\_

(所属機関のアドレス)

Health Examination Report of Applicant for Graduate School,  
Hamamatsu University School of Medicine (Doctoral Programs)

Application No.	※		Final Result	※	
				<div style="border: 1px solid black; width: 50px; height: 50px; margin: 0 auto;"></div> <div style="font-size: 8px; text-align: center;">Exam not required</div>	<div style="border: 1px solid black; width: 50px; height: 50px; margin: 0 auto;"></div> <div style="font-size: 8px; text-align: center;">Re-exam required</div>
				<div style="border: 1px solid black; width: 50px; height: 50px; margin: 0 auto;"></div> <div style="font-size: 8px; text-align: center;">Detailed exam. required</div>	
Name	Male Female		Birth Date (Age)	_____/_____/_____ (        yrs)	
Address					
Height	.        cm	X-Ray Findings (Film No.        ) *please describe X-ray findings based on the X-ray film taken within 3 months prior to application. (Please specify the Film No. in case of indirect roentgenography.)			
Weight	.        kg				
Eyes	Vision	Left . ( . )	Right . ( . )	Past Illnesses	
	Color vision				
	Audibility				
Blood Pressure	/        mmHg		Subjective & Objective Symptoms		
Urinalysis	Glucose	Protein			
Overall Findings:					
Date: ____/____/____ (yr./mo./day) Address(Location) : _____ Medical Site : _____ Physician : _____ (Signature)					

When filling out this form:

1. please do not fill in the space indicated with ※
2. in “Past Illnesses”, please describe major past illness and the age at onset.

様式第 1 号 (第 6 条関係)

Form 1

浜松医科大学私費外国人留学生奨学金 給付申請書

Hamamatsu University School of Medicine Private-Expense International Students  
Scholarship Application Form

年 月 日  
Date : Year Month Day

浜松医科大学長 殿

To : The President of Hamamatsu University School of Medicine

大学院医学系研究科博士課程

Graduate School of Medicine & Nursing Doctoral Degree Program

氏 名

Full Name(Signature)

下記の理由により、浜松医科大学私費外国人留学生奨学金奨学生として採用していただきたく  
お願いします。

I want to receive Hamamatsu University School of Medicine Private-Expense International Students  
Scholarship for the following reasons.

記

理 由

Please fill in the reason why you want to receive a scholarship in this blank space.