

**October 2022 Enrollment**

**Guidelines for Prospective Applicants to the International Doctoral Program  
in Dental Science**

**Admission**



**Kyushu University**

**Faculty of Dental Science**

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## International Doctoral Program in Dental Science from October 2010



This international program emphasizes the cultivation of researchers, educators and well-trained clinical dental professionals, especially researchers who are capable of taking international leadership roles in dentistry. The program seeks to provide highly motivated individuals with advanced training that will enable them to contribute to the improvement of oral health worldwide. The four-year curriculum offers three types of doctoral degrees: Doctor of Philosophy (Dental Science), Doctor of Philosophy, and Doctor of Philosophy (Clinical Dentistry). International students will have the opportunity to take advantage of our excellent research facilities and further their knowledge through independent research in a wide variety of fields. Graduates of our PhD program are well prepared for rewarding careers in research and academia. We look forward to welcoming you to Fukuoka in the near future.

Nakamura Seiji  
Dean of the Faculty of Dental Science

## Years Required for Graduation: PhD course 4 years

### **Types of Degree**

The Graduate School of Dental Science offers three types of doctoral degrees: Doctor of Philosophy (Dental Science), Doctor of Philosophy, and Doctor of Philosophy (Clinical Dentistry).

A Doctorate in Doctor of Philosophy (Dental Science) is awarded to students who specialize in dental research and have obtained sufficient knowledge and skills to undertake independent research.

A Doctorate in Doctor of Philosophy is awarded to students who are engaged in advanced academic research related to dental science and can undertake cutting-edge research in a wide range of fields.

A Doctorate in Doctor of Philosophy (Clinical Dentistry) is awarded to students who specialize in clinical research, have the ability to undertake clinical research, and who can take a leadership role as a highly skilled professional in the future.

### **Requirements for Completion**

A minimum of 4 years of attendance and at least 30 credits: 8 general subject credits taken in the first or second year, 16 credits from the core curriculum and 6 specialist credits taken in the latter years of the course. Please consult your supervisor regarding course selection.

Credits will be awarded on the basis of exams or reports.

In addition to a minimum of 4 years attendance and completion of required credits, students are required to submit a thesis based on original research. After approval of their thesis, students must successfully defend their thesis to be awarded Doctor of Philosophy (Dental Science), Doctor of Philosophy, Doctor of Philosophy (Clinical Dentistry).

However, students with an exemplary research record may graduate in 3 years.

Students who wish to obtain Doctor of Philosophy (Clinical Dentistry) must earn 12 “Clinical Practice I-III” specialist core credits.

## Field of Specialization, Research Area and Supervisor

Please contact the supervisor in your chosen research area before sending the admission documents.

Kyushu University Academic Staff Educational and Research Activities Database

([http://hyoka.ofc.kyushu-u.ac.jp/search/index\\_e.html](http://hyoka.ofc.kyushu-u.ac.jp/search/index_e.html))

Field of Specialization	Research Area	Supervisor
Oral Biological Science	Molecular Cell Biology and Oral Anatomy	Prof. Yamaza Takayoshi
	Molecular and Cellular Biochemistry	Prof. Jimi Eijiro
	Aging Science and Pharmacology	Prof. Kanematsu Takashi
	Oral Neuroscience	Prof. Shigemura Noriatsu
	Oral, Brain and Total Health Science	Prof. Jimi Eijiro
Oral Health, Growth and Development	Preventive and Dental Public Health	Prof. Yamashita Yoshihisa
	Pediatric Dentistry and Special Need Dentistry	Prof. Fukumoto Satoshi
	Orthodontics and Dentofacial Orthopedics	Prof. Takahashi Ichiro
Oral Rehabilitation	Biomaterials	Prof. Ishikawa Kunio
	Endodontology and Operative Dentistry	Prof. Maeda Hidefumi
	Periodontology	Prof. Nishimura Fusanori
	Fixed Prosthodontics	Prof. Ayukawa Yasunori
	Implant and Rehabilitative Dentistry	Prof. Ayukawa Yasunori
Maxillofacial Diagnostic and Surgical Sciences	Oral Pathology	Prof. Kiyoshima Tamotsu
	Oral and Maxillofacial Radiology	Prof. Yoshiura Kazunori
	Oral and Maxillofacial Surgery	Prof. Nakamura Seiji
	Oral and Maxillofacial Oncology	Prof. Nakamura Seiji
	Dental Anesthesiology	Prof. Yokoyama Takeshi
	Geriatric Dentistry and Perioperative Medicine	Prof. Kashiwazaki Haruhiko
Interdisciplinary Dentistry	Dental Education	Prof. Tsukiyama Yoshihiro
	General Dentistry	Prof. Wada Naohisa

## Research Subjects

Research Area	
Molecular Cell Biology and Oral Anatomy	<ul style="list-style-type: none"> <li>• Orofacial stem cell-based medicine for tissue/organ regeneration</li> <li>• Molecular regulation of proliferation, differentiation, and senescence in orofacial stem cells</li> <li>• Orofacial stem cell-based pathology for human diseases</li> <li>• Functions of neural crest-derived stem cells in organ development</li> <li>• Molecular mechanism of bone metabolism</li> </ul>
Molecular and Cellular Biochemistry	<ul style="list-style-type: none"> <li>• The common molecular mechanisms that control postmenopausal osteoporosis and weight gain and development of therapeutic strategies</li> <li>• The regulatory mechanism of bone metabolism</li> <li>• The molecular mechanism of bone invasion by oral cancer</li> </ul>
Aging Science and Pharmacology	<ul style="list-style-type: none"> <li>• Studies on type 3 Diabetes and Alzheimer's Disease</li> <li>• Impacts of chronic systemic inflammation on the brain functions (especially focus on microglia)</li> <li>• Pathophysiological roles of cathepsins in inflammation</li> </ul>
Oral Neuroscience	<ul style="list-style-type: none"> <li>• Understanding of molecular mechanisms of taste signaling associated with various diseases (e.g. taste disorders, metabolic syndromes) and development of therapeutic methods for the diseases</li> <li>• Taste organ regeneration and functional analysis of taste related molecules by using new 3 dimensional organ culture system (organoid)</li> <li>• Analysis of taste signaling serving for different functions in multiple organs</li> <li>• Analysis of regulation of food intake and energy homeostasis via taste signaling in oral-brain-gut axis</li> </ul>
Oral, Brain and Total Health Science	<ul style="list-style-type: none"> <li>• Studies on predisposition to non-communicable diseases regulated by environmental factors and epigenomic memory</li> <li>• Studies on molecular basis of biological defense system regulation mediated by protease reaction</li> <li>• Studies on the sex differences in energy metabolism and cognitive function</li> </ul>
Preventive and Public Health Dentistry	<ul style="list-style-type: none"> <li>• Molecular epidemiology on relationship between oral microbiome and oral and systemic health</li> <li>• Epidemiology on relationship between oral and systemic health</li> <li>• Clinical study of relationship between oral function and systemic health</li> <li>• Development of preventive measures of oral diseases utilizing molecular biology</li> </ul>

<p>Pediatric Dentistry and Special Need Dentistry</p>	<ul style="list-style-type: none"> <li>• Translational research of applying primary tooth to regenerative medicine</li> <li>• Study of the energy metabolism on craniofacial growth and development</li> <li>• Molecular analysis of mitochondrial function during dento-craniofacial morphogenesis and development</li> <li>• Genetic analysis of congenital anomaly of craniofacial complex in children and special need children</li> </ul>
<p>Orthodontics and Dentofacial Orthopedics</p>	<ul style="list-style-type: none"> <li>• Analysis for the molecular mechanisms through epithelial-mesenchymal interaction</li> <li>• Molecular mechanism of the mechanical stress response during chondrogenesis and osteogenesis</li> <li>• Molecular and developmental biological analysis of the craniofacial region</li> <li>• Finite element analysis and biomechanics relating to clinical orthodontics</li> <li>• An approach to evaluating the physiological and biochemical functions in masticatory muscle fatigue</li> <li>• Improvement of Quality of Life through orthodontic treatment for patient with malocclusion</li> </ul>
<p>Biomaterials</p>	<ul style="list-style-type: none"> <li>• Fabrication of carbonate apatite bone replacement</li> <li>• Development of three-dimensional interconnected bone replacement</li> <li>• Development of osteoconductive polymer</li> <li>• Development of high performance apatite cement</li> <li>• Analysis of the mechanism of osteoconductivity</li> </ul>
<p>Endodontology and Operative Dentistry</p>	<ul style="list-style-type: none"> <li>• Studies on identification of factors and scaffolds indispensable for periodontal ligament tissue regeneration</li> <li>• Studies on the induction of periodontal ligament stem cells derived from iPS cells</li> <li>• Developmental research on 'Bio-Implant' which includes the engineered periodontal ligament tissue</li> <li>• Development of novel pulp capping materials</li> <li>• Studies on the aging of dental pulp cells</li> <li>• Development of bactericidal treatment for caries microorganisms using bacteriophage</li> </ul>
<p>Periodontology</p>	<ul style="list-style-type: none"> <li>• Studies on the development of new assessment and diagnostic tool for periodontal diseases</li> <li>• Studies on etiology and bio-regulatory mechanisms of periodontal disease</li> <li>• Studies on biological periodontal tissue regeneration</li> <li>• Basic and clinical studies on the interaction between periodontal disease and systemic disease</li> </ul>

	<ul style="list-style-type: none"> <li>• Studies on the mechanism of development of low-grade inflammation caused by periodontal disease, and its influence on other tissues</li> <li>• Studies on the pathogenesis of unique periodontal disease such as drug-induced gingival overgrowth</li> <li>• Studies on the elucidation of patho-physiology of pulpitis and establishment of novel molecular targeted therapy</li> </ul>
Fixed Prosthodontics	<ul style="list-style-type: none"> <li>• Studies on esthetic prosthesis</li> <li>• Clinical and physiological study on maxillofacial rehabilitation</li> <li>• Longitudinal study of oral functions and prosthetic interventions</li> <li>• Evaluation and management of oral dryness and oral hygiene</li> <li>• Analytical study on treatment planning for prosthetic interventions</li> <li>• Clinical research for bone regeneration</li> <li>• Mechanobiology of dental implant and prosthodontics</li> <li>• Basic study about cellular responses to surface modification of dental implants</li> </ul>
Implant and Rehabilitative Dentistry	<ul style="list-style-type: none"> <li>• Development of biomaterials for prosthodontic treatment</li> <li>• Mechanobiology of dental implant and prosthodontics</li> <li>• Studies on bone regeneration therapy</li> <li>• Development of evaluation system for stomatognathic function</li> <li>• Epidemiological and physiological study on oral rehabilitation using removable dentures</li> <li>• Epidemiological and biomechanical study on oral rehabilitation using implants</li> <li>• Application of digital dentistry and workflow across prosthodontic treatment</li> <li>• Studies on physical effect of mouthguard for exercise</li> <li>• Development and evaluation of treatments in Medication-Related OsteoNecrosis of the Jaw</li> <li>• Studies for optimisation of the surgical and prosthodontic skills affecting short / long term success for implant treatment</li> </ul>
Oral Pathology	<ul style="list-style-type: none"> <li>• Molecular and genetic investigation on the development and regeneration of the tooth and periodontal tissues for regenerative therapy</li> <li>• Cellular and molecular biology of oral cancer</li> <li>• Investigation of a common mechanism of developmental formation and tumor formation</li> </ul>



<p>Oral and Maxillofacial Radiology</p>	<ul style="list-style-type: none"> <li>• Study on quantitative diagnosis</li> <li>• Computer-assisted diagnosis using dental images</li> <li>• Studies on direct digital introral imaging system</li> <li>• Analysis on patient radiation dose in dental radiography</li> <li>• Diagnostic image analysis for oral cancer</li> <li>• Image analysis on oral cancers</li> <li>• Studies on radiotherapy for oral cancers</li> <li>• Radiological analysis of cervical lymph node metastasis of malignant tumors</li> <li>• Image analysis on the structure and pathology of salivary glands</li> <li>• Application of ultrasonography to dentistry</li> <li>• Image analysis on the structure and pathology of the masticatory muscles and related structures</li> <li>• Application of “interventional radiology” to dentistry</li> <li>• Development of the training system for dental radiography using virtual reality technique</li> </ul>
<p>Oral and Maxillofacial Surgery</p>	<ul style="list-style-type: none"> <li>• Accurate 3 dimensional measurement on cleft lip and palate / jaw deformity</li> <li>• Development of surgical simulation / navigation system</li> <li>• A study on bone regeneration and compatible biomaterials</li> <li>• Development of artificial temporo-mandibular joint</li> <li>• Development of new treatment method in cleft lip and palate</li> <li>• Development and evaluation of treatments in jaw deformity</li> <li>• Molecularly targeted therapy for oral cancer</li> <li>• A study on the mechanism of invasion and metastasis of oral cancer</li> <li>• Molecular mechanisms of salivary gland development and regeneration</li> <li>• Immunological studies on the pathogenesis of oral mucosal diseases</li> <li>• Immunological studies on the pathogenesis of Sjögren's syndrome</li> <li>• Experimental study on bone regeneration in jaw</li> <li>• A study on regulatory mechanisms of bone immunology</li> </ul>
<p>Oral and Maxillofacial Oncology</p>	<ul style="list-style-type: none"> <li>• Development of the novel treatment for oral cancer</li> <li>• Studies on morphological and functional reconstruction after the surgery of oral cancer</li> <li>• Studies on host defense mechanism against oral cancer</li> <li>• Studies on the oncogenes of oral cancer</li> <li>• Studies on the mechanism of invasion and metastasis of oral cancer</li> <li>• Studies on the mechanism of the escape from immune surveillance by tumor-associated macrophages of oral cancer</li> </ul>

	<ul style="list-style-type: none"> <li>• Studies on relationship between oral bacterial flora and treatment of oral cancer</li> <li>• Studies on dysphagia after treatment of oral cancer (evaluation and rehabilitation)</li> <li>• An immunological study on the pathogenesis of oral mucosal diseases</li> <li>• Analysis of the cell differentiation and intracellular transduction of oral epithelial cells</li> <li>• Immunological studies on the pathogenesis of Sjögren's syndrome</li> <li>• Immunological studies on the pathogenesis of IgG4-related disease</li> <li>• Studies on expanded T and B cells for IgG4-RD and other human autoimmune disease -Joint International Research-</li> <li>• Studies on the treatment of odontogenic tumors</li> <li>• Biological and cytological studies of odontogenic tumors</li> <li>• Studies on the orthognathic surgery for jaw deformities</li> <li>• Clinical studies on the preventive treatment of anti-resorptive agents related osteonecrosis of the jaw</li> <li>• Studies on the pathogenesis and treatment of cleft lip and or palate</li> <li>• Clinical studies on the relationship between chronic orofacial pain and psychosocial factors</li> </ul>
Dental Anesthesiology	<ul style="list-style-type: none"> <li>• Studies on nutrition and metabolism during perioperative period</li> <li>• Studies on life support for dental emergency</li> <li>• Studies on clinical pharmacokinetics of aspirin</li> <li>• Studies on electroencephalogram during general anesthesia</li> <li>• Studies on the management of tracheal tube during general anesthesia</li> <li>• Studies on microcirculation during general anesthesia</li> <li>• Study of the effect of inspiratory oxygen concentration during general anesthesia on respiration</li> </ul>
Geriatric Dentistry and Perioperative Medicine in Dentistry	<ul style="list-style-type: none"> <li>• Studies on the relationship among oral function, systemic disease, and nutrition</li> <li>• Studies on oral management of patients with systemic disease</li> <li>• Studies on oral function management for long healthy lives</li> <li>• Studies on the development of regenerative dental medicine for super-aged society</li> </ul>
Dental Education	<ul style="list-style-type: none"> <li>• Development of instructional strategies to encourage students to transform themselves into lifelong active learners</li> <li>• Development of systematic outcome-based educational programs</li> <li>• Development of ICT-based learning support systems and effective learning materials</li> <li>• Development of reliable tools to assess students' learning outcomes</li> </ul>

General Dentistry	<ul style="list-style-type: none"><li>• Studies on oral tissue regeneration using stem cell populations and/or stem cell-inducing factors</li><li>• Studies on oral care for the perioperative patients</li><li>• Studies on the improvement of oral function for ADL elevation of the aged.</li><li>• Studies on etiology and bacteria of periodontal disease</li><li>• Development of novel training programs and evaluation systems for dental trainees</li><li>• Research on mental health status of dental trainees</li></ul>
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# **Guidelines for Prospective Applicants to the International Doctoral Program in Dental Science**

## **Admission**

International students wanting to enter our Ph.D. program from October, 2022 can apply for special selection, if they meet the following requirements.

### **1. Required Qualifications**

Hold foreign nationality and meet the following requirements:

- i. Those who have completed or are expected to complete an 18-year curriculum education in a foreign country (major in Dentistry, Medical Science or Veterinary Medicine) by September 30, 2022.
- ii. Those who have completed a 16-year curriculum education and have 2 years of research experience in a university or research institution, and whose research is evaluated by the faculty as having the same level as a graduate in Dentistry, Medical Science or Veterinary Medicine.
- iii. Those who have received, or are expected to receive a bachelor's degree or a degree equivalent to the bachelor's by September 30, 2022 by completing a 5-year course or longer (includes completing the course by taking classes in a correspondence course provided by a foreign university or an equivalent foreign facility in Japan, or completing the course at a scholastic organization admitted by the School Education System in the foreign country concerned) at a foreign university or other foreign schools (limited to the institution and its overall situation of educational research activities admitted by the person certified by the foreign government or relevant authorities, or the equivalent institution specially designated by the Minister of Education, Culture, Sports, Science and Technology)

### **2. Application Period**

May 17 (Tuesday) to May 24 (Tuesday), 2022

### **3. Application Documents**

- i. Application form (Kyushu University format)  
\*Attach two photos (5 x 4cm) to your application form
- ii. Curriculum Vitae
- iii. College diploma and college transcript from the last school you graduated from
- iv. Entrance examination fee: 30,000 JPY

Please transfer in Japanese yen and cover all the commission costs when you transfer.

(Not required for Japanese government scholarship (MEXT) students)

N.B. This fee is non-refundable

Applicants are asked to either ① make a bank transfer (make sure to enclose a photocopy of the remittance receipt together with their application documents as proof of payment) or ② pay the application fee online via "e-payment." Payment of all bank charges, including any transaction charges, is entirely the responsibility of the applicant.

<①Bank Transfer>

Beneficiary:

Name	Kyushu University
Address	744 Motooka, Nishi-ku, Fukuoka 819-0395
Country	JAPAN

Beneficiary's Bank:

Name	SUMITOMO MITSUI BANKING CORPORATION
Branch Name	FUKUOKA BRANCH
Address	1-1-1 Hakataekimae, Hakata-ku, Fukuoka 812-0011, JAPAN
A/C No.	7119240
Swift Code	SMBCJPJT

<②Credit Card Payment>

Payment can be made by credit card online at;

<https://e-shiharai.net/> (in Japanese)      <https://e-shiharai.net/english/> (in English)

\*For detailed information on how to pay all fees online, please see the page labeled "How to Pay Your Application Fee by Credit Card" at the end of this brochure.

v. Submission of original TOEIC, TOEFL, or IELTS score reports

(for applicants seeking exemption from the written English examination).

If your English language ability is assessed as sufficient, based on your submitted TOEIC, TOEFL, or IELTS score report, you will be exempt from taking the written English examination.

However, if an original score sheet is not submitted, you will be required to take the written English examination. Please submit an original score report dated no more than two years before the PhD application deadline.

The original score report will be returned to you after processing.

**【Original score sheet】**

- Official Score Certificate of TOEIC
- Test Taker Score Report or Institutional Score Report of TOEFL  
(Score Record of TOEFL-ITP is also accepted)
- Test Report Form of IELTS

**4. Selection Method**

Selection will be based on the results of examination, interview and application documents.

Written examination and interview

Place: Faculty of Dental Science, Kyushu University

Date: June 7 (Tuesday), 2022

Time (JST)	Subject
9:30~10:30	Field of Specialty*
10:50~12:20	English
13:30~	Interview

\*You will be examined on your field of specialty and related subjects.

\*It is possible to take the written examinations and interview in your home country, for example using Skype. Please contact us for details.

\*We may accept applicants under the category of the secondary screening depending on circumstances. Please contact the Student Affairs Office for details.

## **5. Notification of Results**

July 1 (Friday), 2022

Applicants will be notified by email.

## **6. Enrollment Procedure**

The enrollment documents will be sent to the successful applicants' registered address in early July. These documents must be completed during the enrollment period, July 15 (Friday) to July 22 (Friday), 2022.

\*If you do not complete the enrollment procedure during this period, you will lose your place.

### Entrance fee and tuition fees

Entrance fee: 282,000 yen

Tuition fees: 267,900 yen for the spring semester (October 1, 2022 - March 31, 2023) (Annual amount 535,800 yen)

\*All fees are waived for Japanese government scholarship (MEXT) students.

\*All fees shown here are subject to change.

## **7. Use of Personal Information**

- i. Your personal information is only used for the application process, admission procedure and data collection.
- ii. Your personal information is protected under Japanese Personal Information Protection

## **8. Applicants with Disabilities**

The University provides consultation for applicants with disabilities who may require special arrangements during the entrance examinations or in classes after enrollment.

Please contact the following office prior to the application process as soon as possible as it sometimes takes extra time to decide on the arrangements depending on the situation.

Contact Information:

Student Affairs Office, Faculty of Dental Science, Kyushu University

3-1-1 Maidashi, Higashi-ku, Fukuoka 812-8582, Japan

TEL: +81-92-642-6261

E-mail: [ijgsigaku@jimu.kyushu-u.ac.jp](mailto:ijgsigaku@jimu.kyushu-u.ac.jp)



Education (since graduating high school)	
(dd/mm/yy)	
Employment	
(dd/mm/yy)	
Professional Qualifications (e.g. Dental License Registration Number)	
(dd/mm/yy)	

Signature

Date (dd/mm/yy)

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**Examination Rules**

1. Candidates cannot enter the examination room without their examination card.
2. Candidates must sit in the seat allocated to their examinee number and display their examinee card on their desk during the exam.
3. Candidates can bring pencils (not colored pencils), erasers and pencil sharpeners into the examination room. All other materials are not permitted.
4. Additional information will be given prior to the start of the examination



<b>Name in Alphabet</b>	
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**Curriculum Vitae: Educational Background**

Category	School Name	Location (City/Country)	Period of Schooling	Period of Attendance (dd/mm/yy)
Elementary Education				
Secondary Education (Junior High School)				
Secondary Education (High School)				
University (Undergraduate Level)				
University (Postgraduate Level)				

Signature

Date (dd/mm/yy)

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<b>Name in Alphabet</b>	
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**Curriculum Vitae: Employment Record**

Name of Organization	Location	Period of employment (dd/mm/yy)	Position	Type of work

Signature

Date (dd/mm/yy)

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