

平成22年度

帯広畜産大学大学院畜産学研究科

畜産衛生学専攻（博士後期課程）

学生募集要項（第2次募集）

（一般選抜・社会人特別選抜・外国人留学生特別選抜）

APPLICATION FOR ADMISSION TO  
THE DOCTORAL PROGRAM  
ANIMAL AND FOOD HYGIENE MAJOR  
GRADUATE SCHOOL OF AGRICULTURE  
AND VETERINARY MEDICINE  
OBIHIRO UNIVERSITY  
FOR 2010 (The Second Collection)

(General Admission, Special Selection for Mature Applicants,  
Special Selection for International Students)

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## 1 Number of Students to be admitted

Program	Departments	Number of Students to be admitted		
		General Admission	Special Selection for Mature Applicants	Special Selection for International Students
Animal and Food Hygiene	Animal Medical Science Food Hygiene Environmental Hygiene	Limited	Limited	Limited

## 2 Application Criteria

### (1) General Admission (including international students)

To apply for General Admission, one must meet one of the following criteria:

- ① Those who have been awarded a master's degree or a degree related to professional studies, or are expected to do so on or before March 31, 2010.
- ② Those who have been awarded outside Japan a master's degree, or a degree related to professional studies that is prescribed by Article 5-2 of the Regulations of Degrees (Educational Ministerial Ordinance No. 9, 1953), which is based on Article 104, Section 1 of the School Education Law, or are expected to do so on or before March 31, 2010.
- ③ Those who have been awarded a master's degree or a degree related to professional studies which was obtained in Japan through a correspondence course conducted by a school outside of Japan, or are expected to do so on or before March 31, 2010.
- ④ Those who have been enrolled in a graduate school in Japan of an overseas-based educational institution approved by the Minister of Education, Culture, Sports, Science and Technology, and awarded a master's degree or a degree related to professional studies by said institution, or are expected to do so on or before March 31, 2010.
- ⑤ Those who are deemed eligible by the Minister of Education, Culture, Sports, Science and Technology (Bulletin No. 118, Ministry of Education, 1989):
  - i Those who graduated from a college and engaged in research at a college or a laboratory for two years or more, and who are, for their research results, recognized by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree are eligible;
  - ii Those who completed 16 years of school education abroad or by taking a correspondence course in Japan conducted by a school outside of Japan, and have engaged in research for two years or more, and who are, for their research results, recognized by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree are eligible.
- ⑥ Those who are 24 years old or older, and recognized in the preliminary selection by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree or a degree related to professional studies (including those who completed a 6-year college program or are expected to do so on or before March 31, 2010).

Note 1 : Applicants who satisfy ⑤ or ⑥ need to refer to "Authorization for Qualified Applicants" on page 6.

(2) Special Selection for Mature Applicants (including international students)

To apply for the Special Selection for Mature Applicants, one must meet the criteria outlined in ① together with one of i ~ vi.

- ① Those who have a background in animal husbandry or veterinary medicine, have been engaged in activities related to food or livestock hygiene, and will have been out of school for two years or more as of March 31, 2010.
- i Those who were awarded a master's degree or a degree related to professional studies before March 31, 2008.
  - ii Those who were awarded outside Japan a master's degree, or a degree related to professional studies that is prescribed by Article 5-2 of the Regulations of Degree (Educational Ministerial Ordinance No. 9, 1953), which is based on Article 104, Section 1 of the School Education Law, before March 31, 2008.
  - iii Those who were awarded a master's degree or a degree related to professional studies that was obtained in Japan through a correspondence course conducted by a school outside of Japan before March 31, 2008.
  - iv Those who have been enrolled in a graduate school in Japan of an overseas-based educational institution approved by the Minister of Education, Culture, Sports, Science and Technology, and awarded a master's degree or a degree related to professional studies by said institution before March 31, 2008.
  - v Those who are 26 years old or older, and deemed eligible by the Minister of Education, Culture, Sports, Science and Technology (Bulletin No. 118, Ministry of Education, 1989):
    - a. Those who graduated from a college and engaged in research at a college or laboratory for two years or more, and who are, for their research results, recognized by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree are eligible;
    - b. Those who completed a 16 years of school education abroad or by taking a correspondence course in Japan conducted by a school outside of Japan, and have engaged in research for two years or longer, and who are, for their research results, recognized by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree are eligible.
  - vi Those who are 26 years old or older, and recognized in the preliminary selection by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree or a degree related to professional studies (including those who completed a 6-year college program).

Note 1: Applicants who satisfy v or vi need to refer to "Authorization for Qualified Applicants" on page 6.

(3) Special Selection for International Students.

To apply for the Special Selection for International Students, one must meet the criteria ①,② and ③ together with one of i ~ iv.

- ① Those who don't hold Japanese nationality and principally reside abroad.
- ② Those who have two years or more of work experience at research, educational and/or administrative institutes related to food or livestock hygiene as of March 31, 2010.
- ③ Those who took the TOEFL test (Paper-Based Testing or Internet-Based Testing) within two years at the time of your application time (TOEFL-ITP(Institutional Test Program) are not acceptable).
  - i Those who were awarded a master's degree or a degree related to professional studies.
  - ii Those who were awarded outside Japan a master's degree, or a degree related to professional studies that is prescribed by Article 5-2 of the Regulations of Degree (Educational Ministerial Ordinance No. 9, 1953), which is based on Article 104, Section 1 of the School Education Law.
  - iii Those who are 26 years old or older, and deemed eligible by the Minister of Education, Culture, Sports, Science and Technology (Bulletin No. 118, Ministry of Education, 1989):
    - a. Those who graduated from a college and engaged in research at a college or laboratory for two years or more, and who are, for their research results, recognized by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree are eligible;
    - b. Those who completed a 16 years of school education abroad or by taking a correspondence course in Japan conducted by a school outside of Japan, and have engaged in research for two years or longer, and who are, for their research results, recognized by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree are eligible.
  - iv Those who are 26 years old or older, and recognized in the preliminary judgment by Obihiro University Graduate School as having equal to or higher academic ability than a holder of a master's degree or a degree related to professional studies (including those who completed a 6-year college program).

Note 1: Applicants who satisfy iii or iv need to refer to (4) "Authorization for Qualified Applicants" below.

Scholarship (Limited to Special Selection for International Students)

A scholarship for a 80,000 yen/month will be provided. However, this scholarship will not be given to those who are recipients of government or other scholarship. This scholarship will be available for a maximum of 3 years, but could be terminated depending on a general evaluation of grades, etc. after one year.

Entrance and tuition fee exemption (Limited to Special Selection for International Students)

Students admitted by Special Selection for International Students are exempted from the entrance and tuition fees unless a government or other organization is paying their fees. The maximum period of exemption is for 3 years. The exemption may be cancelled depending on the student's overall evaluation including course grades in the first year.

(4) Authorization for Qualified Applicants

Submit the documents in the table below by the deadline if you need to be authorized as a qualified applicant.

- Deadline for the applicants for General Admission and Special Selection for Mature Applicants is Monday, November 30, 2009.

If you send the documents by mail, use registered express mail.

Documents to submit	Application form for qualified applicant authorization (Use the prescribed form) <ul style="list-style-type: none"> <li>• Graduation/completion certificate from the last school you attended</li> <li>• Academic transcript</li> <li>• Research certificate (including period of time and contents of your research)</li> <li>• Materials from research results</li> </ul>
Submit to:	Admission Office Student Affairs Section Obihiro University of Agriculture and Veterinary Medicine 11, Nishi 2, Inadacho, Obihiro, Hokkaido, 080-8555 Japan

### 3 Application Procedure

#### (1) Application documents

##### ① Application documents (General Admission • Special Selection for mature applicants)

Application documents	General Admission	Special Selection for mature applicants	Summary
1 Application form, Exam admission card, Photograph card	<input type="radio"/>	<input type="radio"/>	<ul style="list-style-type: none"> <li>• Fill out the prescribed form except columns marked with *.</li> <li>• The photo (4 cm high x 3 cm wide) must have been taken within 3 months prior to application. The portrait must be a full face, front view, without a hat, and wearing glasses if you expect to do so at the exam. Write your full name and expected major on the back of the photo and glue it to the designated spot.</li> </ul>
2 Statement of application	<input type="radio"/>	<input type="radio"/>	<ul style="list-style-type: none"> <li>• Fill out the prescribed form. Describe why you chose our doctoral course.</li> </ul>
3 Certificate of graduation, or certificate of expected graduation of a Master's course	<input type="radio"/>	<input type="radio"/>	
4 Academic Transcript	<input type="radio"/>	<input type="radio"/>	<ul style="list-style-type: none"> <li>• Records from your college and graduate school. Must be sealed.</li> </ul>
5 Certificate of foreign registration	<input type="radio"/>	<input type="radio"/>	<ul style="list-style-type: none"> <li>• The applicant who is a registered foreigner must submit this certificate with visa status and period of stay noted on it.</li> </ul>
6 Name and Address Card (the address will be used to contact successful applicants)	<input type="radio"/>	<input type="radio"/>	<ul style="list-style-type: none"> <li>• Fill out your name, address and postal code on the prescribed form.</li> </ul>
7 Self-addressed stamped envelope for sending the exam admission card	<input type="radio"/>	<input type="radio"/>	<ul style="list-style-type: none"> <li>• Fill out your name, address and postal code, and put postage stamps worth 350 yen on the prescribed small envelope. (The stamps are unnecessary if you choose to come to the Entrance Examination Office to pick up the card.)</li> </ul>
8 Summary of Master's thesis	<input type="radio"/>	<input type="radio"/>	<ul style="list-style-type: none"> <li>• Submit a summary of your completed or ongoing Master's thesis. Write on A4-sized paper, three pages maximum. You may add articles and / or reports that display your academic ability.</li> </ul>
9 Letter of Consent to Application	/	<input type="radio"/>	<ul style="list-style-type: none"> <li>• Applicants who are currently employed by an organization must submit Letter of Consent to Application, filled out, signed or sealed by a representative personnel in the organization.</li> </ul>

Note 1 : Applicants who are not Japanese nationals must contact the Entrance Examination Office to receive special instructions before applying.

Note 2 : Those who have completed or who are expected to complete our Master's course do not have to submit Item 3.

Note 3 : Contact the instructor of the research field you wish to belong to before applying.

② Application documents (Special Selection for International Students)

Application documents		Summary
1	Application form, Exam admission card, Photograph card	<ul style="list-style-type: none"> <li>• Fill out the prescribed form except columns marked with *.</li> <li>• The photo (4 cm high x 3 cm wide) must have been taken within 3 months prior to application. The portrait must be a full face, front view, without a hat, and wearing glasses if you expect to do so at the exam. Write your full name and expected major on the back of the photo and glue it to the designated spot.</li> </ul>
2	Statement of application	<ul style="list-style-type: none"> <li>• Describe your reasons for applying to the graduate school and how you plan to use the knowledge learned from your graduate studies. Also include a brief personal history. Write on A4-sized paper, three pages maximum.</li> </ul>
3	Certificate of completion of Master's course	
4	Academic Transcript	<ul style="list-style-type: none"> <li>• Records from your college and graduate school. Must be sealed.</li> </ul>
5	Name and address card (the address will be used to contact successful applicants)	<ul style="list-style-type: none"> <li>• Fill out your name, address and postal code on the prescribed form.</li> </ul>
6	Self-addressed stamped envelope for sending the exam admission card	<ul style="list-style-type: none"> <li>• Fill out your name, address and postal code on the prescribed small envelope.</li> </ul>
7	Letter of recommendation	<ul style="list-style-type: none"> <li>• Three letters of recommendation, one each from the following persons:               <ol style="list-style-type: none"> <li>① Head or person of equivalent status of college you attended (which should describe applicant's personality, grades, extracurricular activities, English proficiency, etc.) ;</li> <li>② Head or person of equivalent status from place of employment (which should describe applicant's personality, achievements, working conditions, English proficiency, etc.) ;</li> <li>③ Other than the above (which should describe applicant's personality, grades/achievements, English proficiency, etc.)</li> </ol> </li> </ul>
8	Achievement report	<ul style="list-style-type: none"> <li>• Describe your Master's thesis if you have one, the work you are currently engaged in, and any other notable achievements on A4-sized paper, two pages maximum.</li> </ul>
9	Short essay	<ul style="list-style-type: none"> <li>• Write a short essay on the theme provided by Obihiro University on A4-sized paper, two pages maximum.</li> </ul>
10	The Examinee's TOEFL Score	<ul style="list-style-type: none"> <li>• The original examinee's TOEFL score (Paper-Based Testing or Internet Based-Testing). The original score will be returned after it is copied by the Admission Office.</li> <li>• TOEFL test which was taken within 2 years from the submitted date is acceptable.</li> <li>• TOEFL-ITP (Institutional Test Program) are not acceptable.</li> </ul>

Note 1 : Items 2, 7, 8 and 9 must be typed in English.

Note 2 : Contact the instructor of the research field you wish to belong to before applying.

- ③ Payment method for examination fee  
Entrance examination fee: 30,000 Japanese yen.

- 1) General Admission and Special Selection for Mature Applicants (Remittance from inside Japan)  
Please pay 30,000 Japanese yen for the examination fee using the prescribed form at a post office or Japan Post Bank within the designated payment period as indicated below. The receipt must be submitted with the application documents.

Government-financed international students do not have to pay the fee but must submit the “certificate of government-financed international studies” issued by your college (a copy is acceptable)

Note that post offices are normally open from 9:00 to 16:00 on weekdays and closed on Saturdays, Sundays and national holidays.

Those who completed our Master's program in March 31, 2010 do not have to pay the fee. Report to the Admission Office in that case.

**Payment Period: From Thursday, December 24, 2009 to Friday, January 8, 2010.**

- 2) Special Selection for International Students (Remittance from abroad)  
The amount of 30,000 Japanese yen for the examination fee must be transferred from a financial institution following the instructions below. A photocopy of the Telegraphic Transfer Application Form must be submitted with the application documents.

- Telegraphic transfer
- Advise and pay
- Applicant pays the transaction charge
- Amount: ¥30,000(Japanese yen)
- Transfer to:

Receiving bank:

SHINKIN CENTRAL BANK  
INTERNATIONAL OPERATIONS CENTER  
SWIFT CODE: ZENBJPJT

Receiving bank's address:

9-1 HONMURA-CHO, ICHIGAYA, SHINJUKU-KU, TOKYO JAPAN

Beneficiary's Account No:

0340900 with OBIHIRO SHINKIN BANK INADA BRANCH

Beneficiary's name:

OBIHIRO CHIKUSAN DAIGAKU

Beneficiary's Address:

11, NISHI 2, INADACHO, OBIHIRO, HOKKAIDO, 080-8555, JAPAN

**Payment Period: From Thursday, December 24, 2009 to Friday, January 8, 2010.**

**\*All handling fees including transaction charges are to be paid by the applicant.**

- ④ Notes for Application

- 1) The examination fee is not refundable for any reason except the following:
- The applicant has failed to submit his or her application form by the prescribed date, or his or her application form has been rejected by the University.
  - The applicant has paid the examination fee twice.
- A request for a refund should be made promptly.  
\*For further information about the refund, contact:
- Admission Office  
Obihiro University of Agriculture and Veterinary Medicine  
Tel: +81-155-49-5321
- 2) An application will be rejected if the examination fee is not paid or the payment receipt is not dated by the post office or Japan Post Bank.

(2) Application period

General Admission • Special Selection for mature applicants • Special Selection for International Students

Applications will be accepted from Monday, January 4 to Friday, January 8, 2010.

If sent by mail, the documents must arrive by Friday, January 8, 2010.

(3) Application method

Enclose all the application documents in the prescribed envelope or an A4-sized envelope and bring it directly to the University or send it by mail.

① Direct Application: Accepted between 8:30 and 17:00, Monday through Friday.

② Mailed Application:

1) General Admission/Special Selection for Mature Applicants

The documents must be sent by registered special delivery mail, and must arrive by 17:00 on Friday, January 8, 2010. Documents arriving later than this will not be accepted. Please be sure to send them early enough to avoid postal delays.

2) Special Selection for International Students (Residents outside of Japan)

Documents must be sent by EMS or registered airmail, and must arrive by 17:00 on Friday, January 8, 2010. Documents arriving later than this will not be accepted. Please be sure to send them early enough to avoid postal delays.

(4) Where to send Application Documents

Admission Office, Student Affairs Section, Obihiro University of Agriculture and Veterinary Medicine.

11, Nishi 2, Inadacho, Obihiro, Hokkaido, 080-8555 Japan

Note: The application documents is non-refundable.

#### 4 Method of Selection

##### (1) General Admission

Results from the examination of academic ability (short essay) and interview, the statement of reasons for application, and the academic transcript will be examined.

##### (2) Special Selection for Mature Applicants

Results from the interview, the statement of reasons for application, and the academic transcript will be examined.

##### (3) Special Selection for International Students

The statement of reasons for application, the academic transcript, the letters of recommendation, the achievement report, the short essay, and the TOEFL score will be examined. No interview is conducted in this Special Selection.

Note : The interview includes a 15-minute presentation on the applicant's research or achievements.

At the interview, you need to use a PC or OHP which the university prepares for your presentation. Please bring your presentation data to our Entrance Examination Section, or send it by mail to arrive by Friday, February 5, 2010.

#### 5 Examination of Academic Skill (for General Admission only)

Departments	Research field	Examination Subjects
Animal Medical Science	Animal Production Hygiene	Short Essay
	Zoonotic Protozoan Disease	
Food Hygiene	Milk and Meat Hygiene	
	Hygiene Economics	
	Pathogenic Microorganism	
Environmental Hygiene	Sanitary Zoology	
	Recycling-oriented Animal Husbandry	

#### 6 Time, Date and Examination Location

##### (1) General selection

Date	Subject	Time	Location
Monday, February 8, 2010	Short Essay	9:30 – 11:30	Obihiro University
	Interview	13:00 –	

##### (2) Special Selection for Mature Applicants

Date	Subject	Time	Location
Monday, February 8, 2010	Interview	13:00 –	Obihiro University

##### (3) Special Selection for International Students

Selection based on submitted documents : Thursday, January 14, 2010.

Note : By 10:00 am on Friday, February 5, 2010, the location of the examination room will be posted at the entrance of the General Research Building I. However, entry into the examination room is not allowed.

## 7 Advance Consultation for Applicants with Physical Disabilities

Applicants with physical disabilities are advised to consult with the Entrance Examination Office beforehand, as special consideration may be necessary for taking the examination or studying. Those who use a hearing aid, crutches, or a wheel chair are also advised to consult the Entrance Examination Office as special arrangement at the examination sites and other locations may be necessary.

- (1) Deadline for the consultation : Monday, November 30, 2009.
- (2) For inquiries, contact : Admission Office, Student Affairs Section,  
Obihiro University of Agriculture and Veterinary Medicine  
11, Nishi 2, Inadacho, Obihiro, Hokkaido, 080-8555 Japan  
Phone : +81-155-49-5321 (Direct line) (Mon.-Fri. 8:30-17:15)  
Fax : +81-155-49-5324

## 8 Notification of Admission

- (1) General Selection/Special Selection for Mature Applicants :  
10:00 am, Thursday, February 18, 2010  
Special Selection for International Students : 10:00 am, Thursday, February 4, 2010  
The code numbers of the accepted students are displayed at the entrance of the General Research Building I and on the website (<http://www.obihiro.ac.jp>).
- (2) Notification of admission and the documents necessary for enrollment procedures are sent to the accepted students.
- (3) No telephone enquiries regarding admission.

## 9 Enrollment Procedures

- (1) Enrollment Period :
  - ① General Admission/Special Selection for Mature Applicants  
From Monday, March 8 to Friday, March 26, 2010
  - ② Special Selection for International Students  
From Monday, March 8 to Friday, March 26, 2010
- (2) Enrollment Fee: 282,000 yen  
Note : Those who will complete the Master's course at Obihiro University in March 31, 2010 do not have to pay the enrollment fee
- (3) Tuition Fee: 267,900 yen for the first term (535,800 yen for one year)  
Note : If there is an increase in tuition after enrollment, the student will be required to pay the difference.
- (4) Other Expenses  
Fee for disaster/accident insurance for students in education/research: 4,070 yen  
(Insurance for accidental injury in University activities)

## 10 Privacy Statement

- (1) Any personal information we acquire is strictly protected under the "Law on Protection of Personal Information Held by Independent Administrative Agencies" and the "Obihiro National University of Agriculture and Veterinary Medicine Management Regulations of Personal Information."
- (2) Personal information such as your name and address that is sent during the application process is used for selection, notification of admission, enrollment procedure, survey and research on selection methods and additional procedures.
- (3) Personal information such as the examination results acquired in the process of selection is used for survey and research on selection and selection methods.
- (4) Among (2) and (3) personal information which is mentioned above, only as for the passer, school affairs relations (ex: study guidance etc.), student support relations (ex : scholarship application, tuition exemption application etc.) after your entrance to Obihiro University, we use these information to perform duties about those and duties to accompany those.

A Ph.D. Program Prospectus for Animal and Food Hygiene  
Major Graduate School of Agriculture and Veterinary Medicine, Obihiro University

**Admission Policy**

The Animal and Food Hygiene major of our doctoral program strives to train researchers, college educators and advanced specialists to an international level so that they can conduct research on and teach about livestock production, food hygiene and environmental conservation from the standpoint of "food safety" and the symbiotic relationship between humans and nature. With these ideas and goals in mind, we are looking for prospective students who are:

1. basically interested in food safety issues
2. internationally-minded and wish to play an active role in international exchanges
3. experienced in the field, but wish to improve their basic and practical skills
4. in search of a way to enhance their ability to understand and solve the problems in the field

## **1. Description of Departments**

### **(1) Department of Animal Medical Science**

The department teaches technical development and theories for raising and breeding healthy livestock and controlling diseases as well as naturally maximizing the potential of healthy animals in order to improve economic efficiency. Furthermore, we examine the interactions between host animals and parasites, such as worms and protozoa that cause infectious diseases. Based on this research, we provide a comprehensive program of animal medical science that includes the diagnoses and treatment of zoonotic protozoan diseases, and the relationship between animal health/disease prevention and the basic functions of nutrition.

#### **a. Animal Production Hygiene**

We examine the hygiene at livestock animal production sites and perform practical studies (in addition to our fundamental research) on the raising and breeding of dairy and beef cattle from the perspective of productive animal medicine and physiology. Our goal is to develop effective breeding and raising techniques that produce healthy livestock and maintain a physiological balance.

#### **Supervisors**

##### **Akio Miyamoto, Professor**

We consider health and hygiene problems specific to high producing dairy cows and provide instruction on ways to prevent these problems based on physiological and endocrinological analyses and fundamental research. We also focus on technical developments that maximize reproductive functions while maintaining the physiological balance of healthy in dairy cattle.

### **Keigo Kuchida, Professor**

We research Japanese beef cattle, a breed peculiar to Japan. We hope to establish an information management system that tracks the cattle from producer to consumer, a new meat quality evaluation system using photographic cross-section image analysis of carcasses, and strategic breeding techniques to produce quality meat. Our main goals are to introduce a meat quality evaluation system using photographic image analysis at production sites, and a cooperative research system with the industrial sector.

### **b. Zoonotic Protozoan Disease**

Our studies focus on control of protozoan diseases in terms of improving livestock production. We examine the host-parasite interactions at various levels such as molecular interactions and population biology. Based on these studies, we aim to develop new diagnostic and treatment methods.

#### **Supervisors**

#### **Ikuo Igarashi, Professor**

In order to diagnose and prevent zoonotic protozoan diseases that cause global economic losses, and health problems for livestock and humans, we mainly examine the infection mechanisms of *Babesia* parasite at molecular level. In addition, we study new diagnostic methods, trends in molecular epidemiology, and pharmaceutical developments.

#### **Noboru Inoue, Associate Professor**

Trypanosomosis caused by salivarian trypanosomes, such as *Trypanosoma brucei* and *T. evansi*, is an economically important disease in both man and animals. However, no effective vaccine avails against this disease. In order to contribute eradication of trypanosomes, we will study host/vector-trypanosome interactions, and develop novel diagnosis and control strategies.

## **(2) Department of Food Hygiene**

We provide a comprehensive examination of the potential dangers that exist in the path that food takes from farm to dining table in order to achieve a stable and efficient supply of safe, high quality livestock food products. The instruction and research on food hygiene done by this department includes:

1. the treatment and prevention of pathogenic microbe contamination, (mainly bacteria and viruses),
2. the management and evaluation of sanitary control systems on farms and at food processing sites,
3. the economic evaluation and design of quarantine systems used in international trade,
4. the development of risk evaluation methods for livestock food products by examining food functions and
5. the pathogenic mechanism of microbes, and the analysis of health dangers related to food.

### **a. Milk and Meat Hygiene**

We provide comprehensive instructions and conduct research on the prevention and control of potentially harmful microorganisms and artificial compounds in livestock food products that may result during the processing and due to actual in vivo reactions. Our goal is to achieve stable supply of safe, quality livestock food products for human consumption making full use of the most recent advances in bioscientific knowledge and techniques.

#### **Supervisors**

#### **Mitsuo Sekikawa, Professor**

We conduct research on production and evaluation of meat and meat products mainly in terms of protein chemistry and useful bacteria. Our instructions focus on the control and evaluation of potential dangers involved in meat production that originate in livestock such as SRM, the control of harmful microorganisms in processed meat products by using useful bacteria, and the relationship between physical change of processed meat products and organoleptic quality.

### **Tadasu Urashima, Professor**

We conduct research on how to cyclopedically analyze milk that has been contaminated by the toxic protein produced by pathogenic bacteria as well as ways to find the protein in fresh milk that takes the phylactic action. We also do research on the analysis of the sugar chain of the human cell surface to which bacterial toxin adheres when infecting humans.

### **b. Hygiene Economics**

In order to achieve food safety and consumers' trust we provide instruction and do research on economic theory and system design theory for food hygiene, the management and evaluation of sanitary control systems on farms and in food processing, the economic evaluation and design of quarantine systems used in international trade, and statistical risk analysis of food,

#### **Supervisors**

##### **Toshihisa Kanayama, Professor**

We provide instruction on the construction of a food system that meets the overwhelming demand for food safety in modern society. Our research is based on the economic theory of food hygiene that includes the economic evaluation of sanitary control systems in raw material production, processing and distribution, and the analysis of consumer behavior.

##### **Hiroichi Kono, Associate Professor**

More advanced livestock sanitary controls are required to prevent problems in the future caused by zoonotic infectious diseases, not only for livestock production but also for human health. Thus, we conduct research to contribute to the advance of livestock sanitary controls by studying sanitary controls and domestic and international vector control systems from the viewpoint of livestock farm management using economic theories.

### **c. Pathogenic Microorganism**

In order to improve animal hygiene and ensure food safety, we conduct research on the elucidation of the molecular interactions between foodborne/zoonotic pathogens and the hosts that are necessary for the establishment of infectious diseases, molecular recognition of self and non-self by the immune system, and modulatory mechanisms of host defense systems. Understanding the molecular bases for such processes will be applied to the development of novel approaches for preventing or controlling infectious diseases and immune disorders. Also, such information will be useful to scientifically assess the microbiological risk in foods.

#### **Supervisors**

##### **Kunitoshi Imai, Professor**

Among emerging and re-emerging infectious diseases, we focus on viral animal infectious diseases including zoonotic ones. We do research on the pathogenesis of these diseases, including the host immune responses, and apply the results of the research to the development of diagnostic and preventive methods and new treatments for viral infectious disease.

##### **Keiko Kawamoto, Associate Professor**

Our research interests include in genetics, pathogenesis, and epidemiology of food-borne bacterial pathogens including Salmonella species, O157, Listeria monocytogenes, and Bacillus anthracis. Our investigation directs toward to the development of diagnosis, prevention and microbial risk assessment for food-borne infectious diseases. Allergic diseases such as food allergy is also our other research topic.

### **(3) Department of Environmental Hygiene**

We provide comprehensive instruction in environmental hygiene including prevention of diseases by infected vector animals, an international epidemiological study of infectious diseases and the utilization of biomass. Our studies cover the prevention of emerging and re-emerging diseases transmitted by vector animals such as rats, and external parasites like insects and ticks, and epidemiological study of infectious diseases associated with livestock food product hygiene as well as consideration of these diseases from the international point of view including the economic impact and prediction of potential outbreaks. We are also studying the establishment of a recycling system in the agricultural and livestock production system based on energy recycling (carbon) and material recycling (nitrogen) in order to alter the highly energy intensive livestock production system that greatly impacts the environment by disturbing material circulation, polluting water systems and emits global-warming gases.

#### **a. Sanitary Zoology**

We study how to prevent the spread of the emerging and re-emerging diseases transmitted by vector animals such as rats and external parasites like insects and ticks, by investigating the vector animals at the genetic level.

##### **Supervisors**

##### **Xuenan Xuan, Professor**

Our goal is to elucidate molecular epidemiology and molecular basis of life of emerging and re-emerging zoonotic infectious diseases transmitted by arthropod such as insects and ticks, which are increasing due to recent changes in international society including global warming and the increase in international trade. We conduct research mainly to clarify the molecular mechanisms modulating the kinetics of pathogens in humans and livestock, especially cross talk of molecules of pathogens and those of humans and animals that act as hosts, and apply the research results to creating diagnostic methods and developing vaccines.

##### **Yoshifumi Nishikawa, Associate Professor**

In order to secure a food safety, our goal is to establish an anti-water or food-born infectious disease measure and control of vector animals. We conduct research mainly to develop the detection system of pathogens and clarify the immunologic and physiologic reactions in humans and livestock, and aim at development of controls and cures against pathogens and vector animals.

#### **b. Recycling-oriented Animal Husbandry**

We are trying to establish an agricultural recycling system for agricultural and livestock production based on energy (carbon) and material (nitrogen) recycling in order to reform the highly energy-intensive livestock production system that has a serve impact on the environment.

##### **Supervisors**

##### **Junichi Takahashi, Professor**

In order to establish energy and nitrogen recycling in livestock farming, we conduct research on methods to control rumen methane generation by safely manipulating rumen using probiotics and animal/plant-derived prebiotics, and developing methods to improve energy and protein metabolism as well as new feed resources.

##### **Kazutaka Umetsu, Professor**

In order to establish an energy and nitrogen recycling system for livestock farming, we conduct research on fermentation factors and develop fermentation control methods, advanced methods to convert energy, and develop of methods to utilize fermented digestive fluid nitrogenous compounds in relation to livestock excrement at biogas plants and biogas created from energy crop and other organic waste.

## **2. Duration and the title of the degree**

### **(1) Duration of the program**

The normal time period required to complete the doctoral program is three years.

### **(2) Title of the Degree**

Those who complete the doctoral program will be awarded a Ph.D.(DAFH):Doctor of Animal and Food Hygiene.

## **3. Special long term limit**

This system allows students who have a job or other special reason to complete their degree within an agreed-upon time (maximum of six years) beyond the standard term limit and still pay the same fee as those students who complete their degrees in the standard amount of time.

In principle, those who want to use this system must apply for it at the time they enroll after consulting with their prospective advisor.

## **◎ Application and enquiries**

### **1. Contact method:**

Please contact us by telephone or postal mail. If you contact us by postal mail, please enclose a self-addressed stamped envelope (if you send mail from outside Japan, please enclose international reply coupons for 250-gram airmail instead of postage stamps).

### **2. Contact:**

Admission Office,  
Student Affairs Section,  
Obihiro University of Agriculture and Veterinary Medicine.  
11, Nishi 2, Inadacho, Obihiro, Hokkaido, 080-8555 Japan  
Phone: +81-155-49-5321 (Monday-Friday, 8:30-17:15)  
Fax: +81-155-49-5324

## **Obihiro University Website**

Visit our website for further information on admission, faculties and outline of Obihiro University.

<<http://www.obihoro.ac.jp>>