**F.No. 34/53/2007-EO(F)**
Government of India
Ministry of Personnel, P.G. and Pensions
(Department of Personnel and Training)

New Delhi, the 30 August, 2007.

Subject: An Advanced Research Course on Control of Zoonosis for Food Safety (Group Training Course) to be held in Japan from 28/10/2007 to 30/08/2008.

The undersigned is directed to state that the Japan International Cooperation Agency (JICA) under the Technical Cooperation Programme of the Government of Japan has invited applications for-An Advanced Research Course on Control of Zoonosis for Food Safty (Group Training Course) to be held in Japan from 28/10/2007 to 30/08/2008. The details of the course and the application form may be drawn from Ministry of Personnel, Public Grievances and Pensions website (**www.persmin.nic.in**). **There are 10 slots available globally.**

2. This Group Training Course is particularly meant for the researchers or faculty members of institutions engaged in protozoan diseases and zoonosis. The candidate should be a holder of a Bachelor of Science or Master of Science Degree in Biology, Zoology or of a related field, or a graduate of Veterinary Medicine or Medical Science, be currently employed as a permanent member of private or public institution and/or research laboratory of an agency. He/She should be under 35 years of age and who has been employed at the institution for more than three(3) years, be engaged in research work on animal or human protozoan infections, food-born diseases, influenza and be willing to participate in parallel or related work in their respective countries, upon completion of the training programme.. He/She should be in good health, both physically and mentally and not be serving in the military. The candidate should have a sufficient command or proficiency of both spoken and written English.

3. The present research course has been envisioned essentially to contribute to the promotion of human resource development in the fields of protozoan, food-borne and viral diseases in developing countries, by improving the skills and the competence of the participants.

4. The fellowship award covers a Round-trip air ticket between an international airport designated by the JICA and Japan, Allowances for (accommodation, living expenses and shipping), expenses for JICA study tours, free medical care for participants who may fall ill after reaching Japan. The participants are not allowed to take any family member during the training course. The last date of completed forms to reach the JICA Office is **not later than 5th September, 2007**.

5. It is requested that the nomination of the suitable candidates may please be forwarded to this Department in accordance with DOPT's Circular No. 37/9/2006-EO(F) dated 2.8.2006.

6. The nomination details should be submitted in the prescribed proforma for long term/short term foreign training programme under Foreign Funding Scheme **as well as in the JICA's prescribed proforma(A2A3) duly authenticated by the Department concerned**

7. The applications should reach the Department not later than 30th August,, 2007. Nominations received after the prescribed date will not be considered. The circular inviting applications for training course is available on this Department's website (**www.persmin.nic.in**

(Trishaljit Sethi)
Director

1. Ministry of Agriculture, Krishi Bhavan, New Delhi-110001./ Min. of Health
2. All the State Governments/Union Territories.
3. Director(Technical), NIC with the request to post the circular along with the JICA's circular and the enclosed proformas on the Department's website.

For a better tomorrow for all.
Japan International Cooperation Agency
(Government of Japan)

No. 51/GT-CP/2007 19th July, 2007

Dear Ms. Manisha Sensarma,

An Advanced Research Course on Control of Zoonosis for Food Safety (Group Training Course) will be held in Japan from 28th October, 2007 to 30th August, 2008 under the Technical Cooperation Programme of the Government of Japan.

We are forwarding herewith six copies of the General Information Booklet on the above offer. It is requested that the following documents of the selected candidate may please be submitted to this office by **5th September, 2007**:-

(1) The Nomination Form A2A3 together with the medical history questionnaire
(2) The desired Job Report
(3) The filled in Questionnaire

Further details are available in the General Information Booklet. It may be noted that the completed Job Report and Questionnaire are essential for screening of applications.

It is further informed that 10 slots are available globally for the above course and it would be much appreciated if you could take further necessary action and submit the nomination(s) of suitable candidate(s) to this office by the designated date.

With regards,

Yours sincerely,

(Fumiko Asakuma)
Assistant Resident Representative

Encl: As stated above.

Ms. Manisha Sensarma
Deputy Secretary (PSE and Trg.)
Department of Economic Affairs
Ministry of Finance
New Delhi.

Copy to:-

Mr. S.K. Sharma, Section Officer, Department of Perosnnel and Training, Ministry of Personnel, Public Grievances and Pensions, North Block, New Delhi.

JICA India Office
3A, (3rd Floor), Lotus Towers,
Community Centre, New Friends Colony,
New Delhi-110025, INDIA

TEL: +91-11-41672580~5
FAX: +91-11-41672586
URL: http://www.jica.go.jp/

INFORMATION ON TRAINING COURSE

# *ADVANCED RESEARCH COURSE ON CONTROL OF ZOONOSIS FOR FOOD SAFETY*

## *JFY 2007*

集団：食の安全確保のための
人畜共通感染症対策

**COURSE NO.: J-07-00777**

**(Project NO.: 0780920)**

**October 28, 2007 ~August 30, 2008**

THE GOVERNMENT OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

# *Preface*

The Japanese Government extends official development assistance (ODA) to developing countries to support self-help efforts that will lead to economic progress and a better life for the citizens of those countries.

Since its foundation in 1974, the Japan International Cooperation Agency (JICA) has implemented Japan's technical cooperation under the ODA program.

Currently, JICA conducts such activities as training, dispatch of experts, provision of equipment, project-type technical cooperation, development study, dispatch of cooperation volunteers (JOCV), survey and administration of capital grant aid programs.

The training program for overseas participants is one of JICA's fundamental technical cooperation activities for developing countries. Participants come from overseas in order to obtain knowledge and technology in a wide variety of fields.

The objectives of the JICA training program are:

(1) to contribute to the development of human resources who will promote the advancement of developing countries, and

(2) to contribute to the promotion of mutual understanding and friendship.

# *Course Background*

Sufficiency in food supply and safety are basic needs to sustain the quality of human existence. Thus, recognizing the environmental factors and other related problems that affect food productivity and safety is crucial. With globalization, food safety has increasingly become an important public health concern. Developing and poor countries are faced with the urgency to strive to increase food production and upgrade safety and other sanitation-related programs. Increase in productivity and securing stable food supply of animal protein is largely dependent on the extent of treatment and prevention and control measures instituted in countries, where many of the most important protozoan and other zoonotic infections are endemic. Zoonoses impacts not only on animals as food source, but also on the people's productivity, as a result of the diseases they harbor. Many of the most important zoonotic diseases include those that are caused by protozoan parasites (malaria, babesiosis, trypanosomiasis, toxoplasmosis, and other) many of which are arthropods-borne diseases, avian influenza, bovine spongiform encephalopathy (BSE), and others. The control of the spread of these infectious agents which differ in their infection routes and in their detection necessitates sustained research, particularly anchored on the development of highly specific and sensitive and cost-efficient diagnostic tools/methods, and in generating accurate data crucial in the formulation of effective and practicable control and preventive strategies. Efforts in curtailing the spread of zoonoses can only be achieved through collaborative efforts, including research-capacity built-up in developing countries.

The JICA-sponsored "Advanced Research Course on Control of Zoonosis for Food Safety" has been envisioned essentially to contribute to the promotion of human resource development in the fields of protozoan, food-borne and viral diseases in developing countries, by improving the skills and the competence of the participants, who, eventually will be tasked to play a key role in laying down the groundwork/foundation in the development/institution of strategies and other related programs against protozoan and other zoonotic diseases in their respective countries.

## *I. ESSENTIAL FACTS*

| | |
|---|---|
| COURSE TITLE | Advanced Research Course on Control of Zoonosis for Food Safety (J07-00777) |
| DURATION | October 28, 2007 ~ August 30, 2008 |
| DEADLINE FOR APPLICATION | September 5, 2007<br>*for acceptance in the Embassy of Japan (or the JICA office) |
| NUMBER OF PARTICIPANTS | 10 |
| LANGUAGE | English |
| TARGET GROUP | Researchers or faculty members of institutions engaged in research in protozoan diseases and zoonoses |
| COURSE OBJECT | Expectations from the participants after completion of the training course:<br>1. Be able to carry out basic research *in vitro* on a particular zoonotic disease(s) in their respective countries;<br>2. To pass on/share the knowledge, skills and technologies which were obtained in Japan to other staff members in their respective countries;<br>3. To lead actively and participate in the programs aimed to apply effective control measures, including improvement of the control strategy, if needed, in their respective countries; and<br>4. Become more cognizant and familiar with the fundamentals and advances of major protozoan diseases as well as zoonoses. |
| TRAINING INSTITUTION | National Research Center for Protozoan Diseases and Research Center for Animal Hygiene and Food Safety, Obihiro University of Agriculture and Veterinary Medicine<br>http://www.obihiro.ac.jp/~protozoa/NRCPDnew/nrcpdeng/indexeng.html<br>Contact: JICA Obihiro International Center<br>Address: No.1-2, West 20, South 6 Obihiro Hokkaido 080-2470 Japan<br>Tel:81 (*)-155(**)-35-1210 Fax:81(*)-155(**)-35-1250 |
| ACCOMMODATIONS | JICA Obihiro International Center (JICA Obihiro)<br>Address: No.1-2, West 20, South 6 Obihiro Hokkaido 080-2470 Japan<br>Tel:81 (*)-155(**)-35-1210 Fax:81(*)-155(**)-35-1250<br>If no rooms are available at hotels or JICA Obihiro, JICA will arrange accommodations for participants at other appropriate places. |
| EXPENSES | The Japanese Government will provide the following through JICA, in accordance with relevant laws and regulations.<br>Details: Round-trip air ticket between an international airport designated by JICA and Japan; allowance for accommodation, living, outfit, book and shipping; expenses for JICA study tours, medical care for participants who become ill after arrival in Japan (note: costs for preexisting illness, pregnancy and dental and other items not specified herein are not covered). |

(*) country code of Japan (**) area code.

(Notes)

The National Research Center for Protozoan Diseases and Research Center for Animal Hygiene and Food Safety, established in 1990 and 2002, respectively, at Obihiro, Hokkaido, Japan, is the only research facility in Veterinary Medicine engaged primarily in research on various facets of protozoan/bacterial/viral diseases, including the development of diagnostic tools/methods. It has taken the bold step of embarking on the conduct of research-based training course essentially to upgrade human resource in the control of protozoan/bacterial/viral diseases and zoonoses in developing countries in Asia, Africa and South America.

## *II. CURRICULUM*

The course provides the participants with intensive research training in the different research units of the National Research Center for Protozoan Diseases. Participants are expected to be a member of the unit, and acquire advanced technologies about diagnostic, therapeutics, prevention and host immune responses on the theme which participant selected, through cooperative research with instructor.

Each participant is assigned to one of the following seven research units. **Basically each unit accepts one or two participants.** To avoid congestion in one unit, the applicants are requested to indicate priority among the seven research units and topics in "Questionnaire" (see Annex) according to his/her interest, because 70-80% of 7 units is focused on protozoan and the rest percentage is for virus and bacteria. Hence the successful applicant may be advised to accept a topic other than his/her 1st choice. He/She will be informed the selected unit and its field with the acceptance information. Reprints of applicant's scientific publications and Job Reports (see procedures: section IV) will facilitate the process of selection of a suitable research subject/topic for the participant.

Example: 1st choice.....3 (b,a)
2nd choice.....5 (c,b)
3rd choice.....1 (b,a)
4th choice.....4 (a,b)

Participants will be introduced to the fundamentals of zoonoses, protozoan/bacterial/viral diseases, food-borne diseases, treatment of experimental implements and animals, serum diagnosis, among others, during the first three weeks, and thereafter, they will be assigned to their respective units.

Seminars/special lectures are held once or twice per month. These may be delivered by a staff of the National Research Center for Protozoan Diseases and Research Center for Animal Hygiene and Food Safety, or by other prominent Japanese and foreign researchers and scientists, not directly affiliated with the Research Center. Seminars and lectures are essentially about protozoan/bacterial/viral diseases and other related fields.

**Unit 1. Functional Genomics and Genetic Biochemistry**

Supervisors: Hiroshi SUZUKI, Ph.D.
Xuenan XUAN, DVM, Ph.D.
Yoshifumi NISHIKAWA, Ph.D.

The research projects are focused on the study of molecular mechanisms controlling host immuneresponses against protozoan infection by employing molecular technologies.

Current subjects of research are as follows:

(1) Isolation and characterization of protozoan genes and gene products which are responsible for the pathogenicity and host immune responses.
(2) Analysis of disease susceptibility in natural hosts vaccinated with virus vectors expressing protozoan genes or by using genetically modified mice.
(3) Development of recombinant vaccines against protozoan diseases by using viral or protozoan vectors.

Research Subjects for JICA Participants:

1-a Cloning and characterization of protozoan genes from *T. gondii*, *N. caninum*, and *B. gibsoni*.
1-b Analysis of host defense mechanisms against protozoan infection by using virus vector and DNA vaccine.

| Month | Contents of Training | Objectives to acquire |
|---|---|---|
| Nov. 2007-<br>Mar. 2008 | ・ Cell culture<br>・ Molecular cloning and characterization | ・ Host cell culture and protozoan parasite culture<br>・ Gene cloning and gene expression |
| Apr.2008- | ・ Application of genetic | ・ Basic techniques for PCR (Polymerase |

| | | |
|---|---|---|
| Aug.2008 | engineering for studies on protozoan diseases | Chain Reaction) and ELISA (Enzyme Linked ImmunoSorbent Assay)<br>・Construction and evaluation of recombinant vaccines against protozoan infections in animals |
| Sep. 2008 | ・Summary of the training and the result of research | |

**Unit 2. Epidemiology and Control of Protozoan Diseases**

Supervisors: Panagiotis KARANIS, Ph.D.
Makoto IGARASHI, DVM, Ph.D.

The aim of research projects is to focus on the immunologic analysis in innate and acquired immune mechanisms contributing to host resistance against protozoan diseases and molecular analysis of protozoan parasites. Current subjects of research are as follows:

(1) Analysis of genetic control of responses to infection by a variety of host- or parasite-related parameters.
(2) Immune regulation of effector function in experimental infection in mice
(3) Development of diagnosis for coccidian parasites, such as *Toxoplasma gondii*, *Neospora caninum*, and *Cryptosporidium* sp.

Research Subjects for JICA Participants:

2-a Characterization of the biological functions of lymphocytes, cytokines and antibodies.
2-b Molecular and epidemiological analysis of protozoan parasites

| Month | Contents of Training | Objectives to acquire |
|---|---|---|
| Nov. 2007-Mar.2008 | ・Cell and tissue culture<br>・Basic immunological techniques<br>・Methodology of experimental animals | ・Culture of host cells and protozoan parasites<br>・Understanding of antigen-antibody reaction<br>・Techniques of injection and blood sampling using mice |
| Apr.2008-Aug.2008 | ・Diagnosis in protozoan diseases<br>・Infection experiment and immunological analysis | ・Analysis of protective immune responses using immunological methods, such as IFAT, LISA, Flow cytometry, Western blotting, PCR. |
| Sep. 2008 | ・Summary of the training and the result of research | |

**Unit 3. Molecular Genetics of Vectors**

Supervisors: Hirotaka KANUKA, Ph.D.
Shinya FUKUMOTO, DVM, Ph.D.

The research projects are focused on the understandings host immunity and host-pathogen interactions for alternation of their ability to transmit disease-causing protozoa by genetic manipulations of both the animals and pathogens. Current subjects of research are as follows:

(1) Genetic dissection of host resistance against infection of *Plasmodium berghei*
(2) Control of antipathogenic response by activation of innate immunity in Anopheline mosquitoes
(3) Development of genetically modified mosquito, which cannot transmit any pathogens

Research Subjects for JICA Participants:

3-a Molecular genetics for vector mosquitoes, including RNA interference and transgenesis for genetic manipulation
3-b Host-pathogen interaction in malaria parasite-transmitting mosquitoes

| Month | Contents of Training | Objectives to acquire |
|---|---|---|

| | | |
|---|---|---|
| Dec. 2007-Mar. 2008 | ・ Basic study of approach for molecular genetics using pathogen-transmitting vectors | ・ Techniques of breeding mosquitoes<br>・ RNA interference for gene-knockdown<br>・ Transgenesis of mosquitoes |
| Apr.2008-Aug.2008 | ・ Genetic dissection of host-pathogen interaction between *Plasmodium berghei* and *Anopheles gambiaek* | ・ Transmission blocking of *Plasmodium* using activation of immune factors<br>・ Elucidation of *Plasmodium* development in mosquitoes by inhibition of gene function |
| Sep. 2008 | ・ Summary of the training and the result of research | |

**Unit 4. Molecular Diagnosis of Protozoan Diseases**

Supervisors: Ikuo IGARASHI, DVM, Ph.D.
Naoaki YOKOYAMA, DVM, Ph.D.

The objectives of this research unit are the development of rapid and accurate diagnostic methods in protozoan diseases and invasion mechanism of *Babesia* parasites into erythrocytes searching erythrocyte membrane receptor and parasite ligands. Current research activities are focused on the following topics:

(1) Development of in vitro systems for cultivating bovine or equines *Babesia* parasites, which are essential for studying the drug sensitivity, as well as the life cycle and biochemistry of the parasites.
(2) Molecular analysis of parasite antigens, including the purification of antigens and the development of diagnostic methods, such as IFAT (Indirect immunofluorescence antibody test) and ELISA, and immunochromatography for hemoprotozoan infections.
(3) Immune mechanisms in experimental protozoan infections in mice, including the role of T cells and cytokines in protection against the parasites.

Research Subjects for JICA Participants:

4-a Development and application of diagnostic methods for protozoan infections using recombinant antigens.
4-b Study on invasion mechanism of *Babesia* parasite into erythrocytes

| Month | Contents of Training | Objectives to acquire |
|---|---|---|
| Nov. 2007-Mar. 2008 | ・ Cultivation of *Babesia* parasites | ・ Culture of protozoan parasites in erythrocytes |
| Apr. 2008-Aug. 2008 | ・ Isolation and production of parasite antigens<br>・ Serological diagnosis of protozoan infection<br>・ Invasion mechanism of *Babesia* parasites to erythrocytes | ・ Production of recombinant antigens by gene technology<br>・ IFAT, ELISA, immunochromatography and PCR<br>・ Treatment of RBC with various enzymes and effect on the parasite growth |
| Sep. 2008 | ・ Summary of the training and the result of research | |

**Unit 5. Advanced Preventive Medicine**

Supervisors: Shin-ichiro KAWAZU, DVM, Ph.D.
Noboru INOUE, DVM, Ph.D.

Overall objective of the research unit is to develop effective control and diagnosis measures against African trypanosomosis and malaria. Current research activities are focused on:

(1) Application of in vitro systems to the evaluation of sensitivity of the parasites (*Plasmodium* and African trypanosomes) to chemotherapeutic agents and the characterization of virulence-related genes/molecules.

(2) Development of serological and molecular diagnosis methods.
(3) Characterization of *Trypanosoma evansi* isolates.
(4) Development and application of genetically modified parasite for investigation of host-parasite relationship in the parasites (*Plasmodium* and African trypanosomes).

Overall objective of the research unit is to develop effective control and diagnosis measures against African trypanosomosis. Current research activities are focused on:
(1) Application of in vitro systems to the evaluation of sensitivity of bloodstream forms (BSFs) to trypanocidal drugs and the characterization of virulence-related genes/molecules.
(2) Development of serological and molecular diagnosis methods.
(3) Characterization of *Trypanosoma evansi* isolates.
Research subjects for JICA participants:
5-a In vitro cultivation of BSFs and insect forms (procyclic forms; PCFs) of *T. brucei brucei*, *T. brucei gambiense*, *T. congolense* and *T. evansi* for the study of culture- and DNA-based diagnoses.
5-b Production of recombinant proteins and their evaluation for ELISA
5-c Molecular diagnosis based on PCR and LAMP (loop-mediated isothermal amplification).

| Month | Contents of Training | Objectives to acquire |
|---|---|---|
| Nov. 2007-Mar. 2008 | ・ Trypanosome culture of BSFs and PCFs<br>・ In vitro culture of malaria parasite | ・Cultivation techniques of trypanosome and their application for diagnoses<br>・Cultivation techniques of malaria parasite and their application for diagnoses |
| Feb. 2008-Aug. 2008 | ・ Serological and molecular diagnoses of trypanosomosis<br>・ Serological and molecular diagnoses of malaria | ・ Production of recombinant antigens for ELISA Diagnosis techniques based on PCR and LAMP |
| Sep. 2008 | ・ Summary of the training and the result of research | |

**Unit 6. Food-borne Bacterial Disease and Chemotherapy**

Supervisors: So-ichi MAKINO, DVM, Ph.D.
Keiko KAWAMOTO, DVM, Ph.D.
Eiki SATOH, DVM, Ph.D.

Our research interests include the genetics, pathogenesis, and epidemiology of food-borne bacterial pathogens, including *Salmonella* species, *Escherichia coli*, *Listeria monocytogenes*, *Clostridium botulinum*, and *Bacillus anthracis*. Current research activities are focused on:
(1) Physiology and molecular genetics of viable but non-culturable bacteria.
(2) Host factor that influences the susceptibility to food-borne diseases.
(3) Evaluation of risk assessment of *C. botulinum* contamination in low-acid, canned foods
Research Subjects for JICA Participants:
6-a Genetics, pathogenesis, and epidemiology of food-borne bacterial pathogens and the development of diagnostic, preventive and microbial risk assessment.
6-b Development of new drugs and vaccines to control animal infectious diseases

| Month | Contents of Training | Objectives to acquire |
|---|---|---|
| Nov. 2007-Mar. 2008 | ・ Basic training used in bacteriological techniques<br>・ Quantitative analysis of antimicrobials and antibiotics | ・ Cultivation or handling techniques of food-borne pathogens<br>・ Techniques of extraction, purification and analysis |
| Apr. 2008-Jul. 2008 | ・ Serological and molecular diagnosis of food-borne | ・ Western blot analysis, ELISA, PCR, or LAMP technique, and production of recombinant |

| | | |
|---|---|---|
| | pathogens<br>・ Detection of residual antimicrobials and antibiotics | antigens<br>・ Pharmacokinetics and estimation of residual substances |
| Aug. 2008 | ・ Summary of the training and the result of research | |

**Unit 7. Emerging and Re-emerging Diseases**

Supervisors: Kunitoshi IMAI, DVM, Ph.D.
Haruko OGAWA, DVM, Ph.D.
Mitsuo ISHII, DVM, Ph.D.

The research subjects are focused on infectious food-borne viral zoonostic diseases such as avian influenza and delivery management. Current research activities are focused on:

(1) The occurrence factor and pathogenesis of viral infections.

(2) The development of diagnosis for monitoring and detecting pathogens.

(3) A system and for developing insights into the biology of pathogens

Research Subjects for JICA Participants:

7-a Mechanism(s) of infection and growth of viruses and the development of diagnostic methods.

| Month | Contents of Training | Objectives to acquire |
|---|---|---|
| Nov. 2007-Mar. 2008 | ・ Basic techniques used in virological study | ・ Cultivation techniques of viruses<br>・ Basic virological, serological and molecular techniques |
| Feb. 2008-Aug. 2008 | ・ Virological, serological, molecular diagnoses of viral diseases like avian influenza | ・ Diagnostic techniques (ELISA, latex test, flow cytometry, PCR etc.) using monoclonal antibodies, recombinant antigens, or viral genes |
| Sep. 2008 | ・ Summary of the training and the result of research | |

**Major publications**

For your information, major publications by each unit are as follows.

**Unit 1** (Functional Genomics and Genetic Biochemistry)

1. LPA3-mediated lysophosphatidic acid signaling in embryo implantation and spacing. Nature 435: 104-108, 2005.
2. Expression of P23 of *Cryptosporidium parvum* in *Toxoplasma gondii* and evaluation of its protective effects. J. Parasitol. 91: 476-479, 2005.
3. Common inheritance of chromosome Ia associated with clonal expansion of *Toxoplasma gondii*. Genome Res. 16: 1119-1125, 2006.
4. Role of type I/II scavenger receptors in malarial infection in C57BL/6J mice. Am.J.Trop.Med.Hyg. 75: 178-181, 2006
5. Apical membrane antigen 1 is a cross-reactive antigen between *Neospora caninum* and *Toxoplasma gondii*, and anti-NcAMA1 antibody inhibit host cell invasion by both parasites. Mol. Biochem. Paarasitol. 151: 205-212, 2007.

**Unit 2** (Epidemiology and Control of Protozoan Diseases)

1. Development of *Neospora caninum* cultured with human serum in vitro and in vivo. J. Parasitol. 91, 222-225. 2005.
2. Prevalence of *Toxoplasma gondii* and *Neospora caninum* in Sika Deer from Eastern Hokkaido, Japan. J. Wildl. Dis. 41, 454-458. 2005.

3. Expression of recombinant dense granule protein 7 of *Neospora caninum* and evaluation of its diagnostic potential for canine neosporosis. J. Protozool. Res. 16: 34-41, 2006
4. *Toxoplasma gondii*: DNA vaccination with genes encoding antigens MIC2, M2AP, AMA1 and BAG1 and evaluation of their immunogenic potential. Exp. Parasitol. 116, 273-282. 2007.
5. A heterologous prime-boost vaccination regime using DNA and a vaccinia virus, both expressing GRA4, induced protective immunity against *Toxoplasma gondii* infection in mice. Parasitology in press. 2007.

**Unit 3** (Molecular Genetics of Vectors)

1. Molecular characterization of a chitinase protein from the hard tick *Haemaphysalis longicornis.* J.Biol.Chem. 278: 8556-8563, 2003.
2. Cytosol-endoplasmic reticulum interplay by Sec61alpha translocon in polyglutamine-mediated neurotoxicity in Drosophila. Proc Natl Acad Sci USA, 100:11723-11728, 2003.
3. Drosophila Caspase Transduces Shaggy/GSK-3beta Kinase Activity in Neural Precursor Development. EMBO J. 24:3793-3806, 2005.
4. Gain-of-function screen identifies a role of the Sec61alpha translocon in Drosophila postmitotic neurotoxicity. Biochim Biophys Acta. 1726:225-237, 2005.
5. Drosophila IKK-related kinase regulates nonapoptotic function of caspases via degradation of IAPs. Cell. 126:583-596, 2006

**Unit 4** (Molecular Diagnosis of Protozoan Diseases)

1. High-level expression and purification of a truncated merozoite antigen-2 of *Babesia equi* in *Escherichia coli* and its potential for immunodiagnosis. J. Clin. Microbiol. 41:1147-1151, 2003.
2. Growth-inhibitory effect of heparin on *Babesia* parasites. Antimicrob Agents Chemother. 48:236-341, 2004.
3. *Babesia caballi* and *Babesia equi*: Implications of host sialic acids in erythrocyte infection. Exp. Parasitol 110: 406-411, 2005.
4. An Immunochromatographic Test for the Simultaneous Serodiagnosis of *Babesia caballi* and *B. equi* Infections in Horses. Clin Vaccine Immunol. 13:553-555. 2006.
5. Development of loop-mediated isothermal amplification (LAMP) method for diagnosis of equine piroplasmosis. Vet Parasitol. 143:155-160. 2007.

**Unit 5** (Advanced Preventive Medicine)

1. Binding of *Plasmodium falciparum*-infected erythrocytes to the membrane-bound form of fractalkine/$CX_3CL1$. Proc. Natl. Acad. Sci. U.S.A. 100: 15942-15946, 2003.
2. Evaluation of loop-mediated isothermal amplification (LAMP), PCR and parasitological tests for detection of *Trypanosoma evansi* in experimentally infected pigs. Vet. Parasitol. 130: 327-330, 2005.
3. 2-Cys Peroxiredoxin TPx-1 is involved in gametocyte development in *Plasmodium berghei*. Mol. Biochem. Parasitol. 148: 44-51, 2006.
4. Effects of exogenous transforming growth factor-beta on *Trypanosoma congolense* infection in mice. Infection and Immunity 75: 1878-1885, 2007.
5. A new trypanosome species isolated from naturally infected *Haemaphysalis hystricis* ticks in Kagoshima Prefecture, Japan. Parasitology, In Press, 2007.

**Unit 6** (Food-borne Bacterial Disease and Chemotherapy**)**

1. An outbreak of food-borne listeriosis due to cheese in Japan, during 2001. Int J Food Microbiol. 104:189-196, 2005.
2. Mass outbreak of food poisoning disease caused by small amounts of staphylococcal enterotoxins A and H. Appl Environ Microbiol. 71: 2793-2795, 2005.
3. Comparison of the antioxidant activity of roasted tea with green, oolong, and black teas. Int J Food Sci Nutr, 56:551-559, 2005.
4. Enhancement of mice susceptibility to infection with Listeria monocytogenes by the treat ment of morphine. Microbiol Immunol. 50:543-547. 2006.
5. Gene expression profile of Vibrio cholerae in the cold stress-induced viable but non-culturable state.

Environ Microbiol. 9:869-879. 2007.

**Unit 7**(Emerging and Re-emerging Diseases**)**

1. Relationship between plasma oxytocin and placental retention time immediately after foaling in heavy draft mares. *J. Equine Sci* 13(4):101-107, 2003.
2. Pathogenesis of conjunctivitis caused by Newcastle disease viruses in specific pathogen-free chickens. Avian Pathol33:371-376, .2004.
3. Characterization of H5N1 influenza A viruses isolated during the 2003-2004 influenza outbreaks in Japan. Virology 332:167-176, 2005.
4. Pathology of fatal highly pathogenic H5N1 Avian influenza virus infection in large-billed crows (Corvus macrorhynchos) during the 2004 outbreak in Japan. Vet Pathol, 43, 500-509. 2006.
5. Partial protection against challenge with the highly pathogenic H5N1 influenza virus isolated in Japan in chickens infected with the H9N2 influenza virus. Arch Virol., 152:1395-1400 2007.

## *III. REQUIREMENT FOR APPLICATION*

Ⅰ.This training course is designated for participants who should :

(1) be native of Asian, South American or African country;
(2) be a holder of a Bachelor of Science or Master of Science Degree in Biology, Zoology or of a related field, or a graduate of Veterinary Medicine or Medical Science;
(3) be currently employed as a permanent member of a private or public institution, and/or research laboratory of an agency;
(4) be under 35 years of age, and who has been employed at the institution for more than three (3) years; and
(5) be engaged in research work on animal or human protozoan infections, food-born diseases, influenza and prion and be willing to participate in parallel or related work in their respective countries, upon completion of the training program.

II. *Other requirements that should be met by the applicant:*

(1) Should be nominated by their respective government, in accordance with the procedures mentioned in section IV. (pls. see below);
(2) In good health physically and mentally, to undergo the training;
(3) Has a sufficient command or proficiency of both spoken and written English;
(4) Not affiliated with the military; and
(5) Non-expectant, as training over a long period may pose risks to pregnant women.
(note: pregnancy is a disqualifying condition for this training course)

**ATTENTION**

Participants are required:
(1) Not to change course subjects or extend the course period;
(2) Not to bring any members of their family;
(3) To return to their home country after course completion, in accordance with the international travel schedule arranged by JICA;
(4) To refrain from engaging in political activities or any form of employment for profit or gain; and
(5) To observe the rules and regulations of their place of accommodation, and not to change accommodations designated by JICA.

## *IV. PROCEDURE FOR APPLICATION*

1. A government desiring to nominate applicants for the course should fill in and forward one (1) original and three (3) copies of the Nomination Form (Form A2A3) for each applicant, to the Embassy of Japan (or the JICA office) by August 28, 2007.

2. The Embassy of Japan (or the JICA office) will inform the applying government whether or not the nominee's application has been accepted not later than September 28, 2007

Questionnaire, school transcripts and reprints of their scientific publications, and Job Report*:

Each applicant is requested to submit the following papers* for evaluation/screening of applicants. Application not accompanied by a completed questionnaire and Job Report cannot be duly considered. Submission of reprints of scientific publications would be advantageous.

(1) Questionnaire

Fill in the form of Questionnaire (Annex), cut it off and submit it together with the Nomination Form.

(2) School transcripts on biomedical sciences, including mathematics.

(3) Reprints of the scientific publications

Each applicant is requested to submit all reprints of scientific publications of which the applicant is a co-author if there is any, together with the Nomination Form.

(4) Job Report

The Job Report should be typewritten in English, less than 5 pages (12-point font, double spaced, A4 size paper ) , and submitted with the Nomination Form (Form A2A3).

The Job report should consist of;

(a) Name of training course
(b) Name of applicant
(c) Name of organization
(d) Organization chart (starting from the section at the lowest level) for every agency, in their countries, which is responsible for their positions.
(e) A brief introduction of work they have been in charge of for the last one year.
(f) Problems in the view of their major protozoan/bacterial/viral diseases and current problems caused by the diseases in their country.
(g) The reason in which they put the first priority among 7 units.

・ **Purpose of the Job Report**

To clarify issues and problems presently faced in their work in order to facilitate the acquisition of knowledge and ideas leading to solutions during the training. Also, to provide the instructors and organizations to be visited during the course of the program advance information regarding issues and potential problems that the participants may encounter upon their return to their respective countries, and help in providing possible and practicable solutions.

・ **Presentation of Job Report:**

Each participant will be asked to present his/her Job Report during one session to be scheduled for this purpose.

1) The time allocation for each presentation will be about 10 minutes.
2) It is advisable to use audio visual aids such as Microsoft Power Point, overhead projectors, or pictures in presenting the Job Report

4. Information on Participants' Organization/Institutions
Participants are required to bring with their pamphlets or organizational profiles and other relevant information. These will be submitted to the JICA Obihiro, upon arrival.

5. List of Forms /Documents and Other Items Required of Participants to be submitted(& Prepared)
(1) Nomination Form (Form A2A3) (one original and three copies )
(2) Accomplished Questionnaire (Annex)
(3) School transcripts (1 copy) on Biomedical Sciences
(4) Reprints of Scientific Publications (1 copy) of each, if any
(5) Job Report (less than 5 pages on a A4 size paper)
(6) Information on the participant's organization (submission on arrival)
(7) Audio visual aids for presentation of the Job Report (on arrival)

## *V. OTHER MATTERS*

1.Pre-departure orientation
Pre-departure orientation is held at the JICA overseas offices to provide the selected candidates with details on travel to Japan, conditions of training, and other matters. Participants will see a video, "TRAINING IN JAPAN", and will receive a textbook and cassette tape, "SIMPLE CONVERSATION IN JAPANESE". A brochure, "KENSHU-IN GUIDE BOOK" will be handed to each selected candidate before (or in the time of ) the orientation.

2.Japanese Language Course
An intensive Japanese course (for 10 hours) will be conducted prior to the training.

3. Certificate and Diploma
Participants who have successfully completed the course will be awarded a certificate by JICA and a diploma by the National Research Center for Protozoan Diseases, Obihiro University of Agriculture and Veterinary Medicine, Hokkaido, Japan.

4. Recreation Activity
To make one's stay in Japan more enjoyable and also to fill one's leisure time, various recreational and entertainment events and social functions are provided at JICA Obihiro in cooperation with local communities. Joining these functions will enrich participants' experiences in Japan and help deepen the cultural and social perceptions of Japan.

The following events are arranged by JICA Obihiro for example:
(1) Friendship gatherings with local community
(2) Exhibitions of various Japanese arts (flower arrangement, tea ceremony, etc.)
(3) Bus-tours to various sight-seeing spots and Japanese industrial factories.

5. In order to promote a cross-cultural understanding with Japanese children, it would be highly appreciated if a participant would carry a few local picture books, written in whatever language with them. Those books (fairy tales or children’s stories) with colorful pictures and happy-ending story are preferable because they are used for showing and reading to four-to-eight-year-old children.
Furthermore as we have opportunities to exchange with not only school children but also local citizens, it is also appreciated for participants to carry music tapes/CDs to introduce their original music or folk music.

6. Participants are kindly requested to bring some materials when coming to Japan. The information about their countries will be housed in the JICA library, and shared with other participants.
   - Statistical Yearbook; national statistical data, if possible, data in their field.
   - Brochure of their organizations.

7. It is requested that those governments recommend applicants who are fully asked to be qualified considering gender balance. In case nominee is only one, qualification should be prior to gender.

8. Regarding medical history, in case you have or have had malaria, you are kindly requested to bring the medicine for malaria with you because it is quite difficult to obtain it in Japan.

9. Further information on JICA Obihiro is available at URL, http://www.jica.go.jp/worldmap/english.html Particularly participants prior to departure are advised to visit the web site. E-mail address to contact for questions: jicaobic@jica.go.jp

Annex

**QUESTIONNAIRE**

NAME:_____

COUNTRY:_____

1. Please list the four Research Units and indicate the subjects offered to JICA participants in order of preference. (See ***II. CURRICULUM***) Participants are not assured to be assigned to the high-priority unit in the case the unit will be chosen by other participants, because each unit could accept only one or two participants. Especially, unit 7 and unit 8 have high possibility to be selected by multiple participants because they are only unit of bacteria or virus diseases in this course.

   First Choice: ( )

   Second Choice: ( )

   Third Choice: ( )[

   Fourth Choice: ( )[

2. Please describe briefly your experience, if any, in the research subjects you have chosen above.

   (1)

   (2)

   (3)

   (4)

3. Please check following techniques which you have mastered.
   1) Culture of pathgens: ( ) viruses, ( ) bacteria, ( ) protozoa
   2) ( ) SDS-PAGE, ( )Western Blot,
   3) ( ) IFAT, ( ) ELISA
   3) ( ) Molecular cloning, ( ) DNA sequesing

4. Please list your publications, if any.

## CORRESPONDENCE

**For enquiries and further information, please contact the JICA office or the Embassy of Japan. Further, address correspondence to:**

**Program Team, Obihiro International Center (JICA Obihiro)**
**Japan International Cooperation Agency (JICA)**

Address: Nishi 20-jo, Minami 6-chome 1-2, Obihiro, Hokkaido080-2470, Japan
URL : http://www.jica.go.jp/worldmap/english.html
jicaobic@jica.go.jp
Tel. : 81 (*) -155(**) -35-1210 Fax. : 81 (*) -155 (**) -35-1250
(*): country code for Japan (**): area code for Obihiro

ANNEXURE I

## APPLICATION FOR LONG-TERM & SHORT-TERM FOREIGN TRAINING PROGRAMMES IN 2007
## (FUNDED BY FOREIGN GOVERNMENTS)

| | | | | | |
|---|---|---|---|---|---|
| 1. | Name | | | | |
| 2. | Designation | | | | |
| 3. | Service | | | | |
| 4. | Cadre | | | | |
| 5. | Batch | | | | |
| 6. | Date of Birth | | | | |
| 7. | Category- Gen/SC/ST | | | | |
| 8. | Date of Joining Service | | | | |
| 9. | Present Posting with Date of Appointment/ Posting | | | | |
| 10. | Complete Postal Address : Official $ | | | | |
| 11. | Complete Postal Address : Residential | | | | |
| 12. | Email | | | | |
| 13. | Telephone numbers | Off: | Res: | Fax: | |
| | | | | | |
| 14. | Academic Background | S.No. | Qualification | Year | Subjects |
| | | | | | |
| | | | | | |
| | | | | | |
| 15. | Previous record of Foreign Training * | Name of the Institute/Country | Name of the Course | Period | Name of Nominating Agency |
| | | | | | |
| | | | | | |
| | | | | | |
| 16. | Brief description of the nature of work of the present post held | | | | |
| 17. | Name with Code Number of the training programmes opted for | | | | |

$ Subsequent change in address, if any, should be intimated to this Department.

* Note : In case of a false information or suppression of information, the officer will be liable for disciplinary proceedings apart from the debarment from foreign training for the rest of his career.

**Certified that the information given above is correct to the best of my knowledge and belief.**

Form A2A3

# Technical Cooperation by The Government of Japan

## Training Award of Japan International Cooperation Agency (JICA)

Application by the Government of

.....

for a training course in the field of

.....

Please provide one original and three copies.
Please print or type.

(FOR JAPANESE OFFICIAL USE)

☐ Ordinary Group Course(集団コース) Course No. .....

☐ Special Group Course(一般特設) Course No. .....

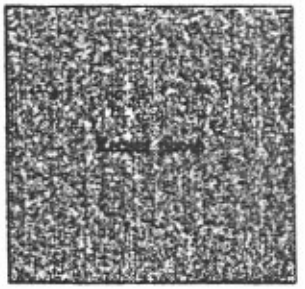
☐ Country-focused Group Course(国別特設) Course No. .....

☐ Counterpart(カウンターパート) 研修名 .....

プロジェクト名 .....

☐ Ordinary Individual Course(個別一般)

☐ Others(C.S. 特別案件等)



**PART A** To be completed by the nominee.

| | | | | |
|---|---|---|---|---|
| **1 FULL NAME** (as in Passport, underline Family Name)<br>(Family) (First) (Middle) | | | | |
| **2 ADDRESS FOR CORRESPONDENCE**<br><br>Telephone :<br>E-mail : | **4 DATE OF BIRTH** | | | **5 AGE** |
| | Month | Date | Year | |
| | | | | |
| | **6 SEX** | | ☐MALE | ☐FEMALE |
| **3 NAME AND ADDRESS OF PERSON TO BE NOTIFIED IN CASE OF EMERGENCY**<br><br>Relationship to you:<br>Telephone: | **7 MARITAL STATUS** | | ☐SINGLE | ☐MARRIED |
| | **8 NATIONALITY** | | | |
| | **9 RELIGION** | | | |

**10 EDUCATIONAL RECORD**

| Institution | City/Country | Years Attended | | Qualification Obtained | Subject |
|---|---|---|---|---|---|
| | | From | To | | |
| | | | | | |

**11 TRAINING OR STUDY IN FOREIGN COUNTRIES** (in relation to professional interests.)

| Institution | City/Country | Period | | Certificate/ Degree Awarded | Field of Study |
|---|---|---|---|---|---|
| | | From | To | | |
| | | | | | |

**12 EMPLOYMENT RECORD**

1) Present Place of Employment

| | |
|---|---|
| Name | Title of Present Job |
| | Date of Taking Up Post |
| Address<br><br>Telephone:<br>Telex/Fax: | Type of Organization<br><br>☐ Governmental/Public<br>☐ Private<br>☐ International<br>☐ Others |

2) Previous Job

| | |
|---|---|
| Name and Address of Organization<br><br>Previous Title/Post and Dates(from/to) | Description of Your Previous Job |

3) Describe briefly the work of your organization and the service it provides.

.....

.....

.....

4) Describe your own job.

.....

.....

.....

.....

.....

5) Explain how the proposed training will be of benefit to you in the work you will be doing on your return.

.....

.....

.....

.....

.....

**13 LANGUAGE PROFICIENCY**

| | | | | |
|---|---|---|---|---|
| 1. English | | | | |
| Listening | ☐ excellent | ☐ good | ☐ fair | ☐ poor |
| Speaking | ☐ excellent | ☐ good | ☐ fair | ☐ poor |
| Writing/Reading | ☐ excellent | ☐ good | ☐ fair | ☐ poor |
| 2. Mother Tongue ..... | | | | |
| 3. Other Language ..... | | | | |
| | ☐ excellent | ☐ good | ☐ fair | ☐ poor |

**14 NOMINEE'S DECLARATION** To be signed by the nominee.

I certify that the statements made by me in this form are true and correct to the best of my knowledge.

If accepted for a training award, I agree:

(a) not to bring any member of my family.
(b) to carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the Japanese Government in respect of this course of training.
(c) to follow the course of study or training, and abide by the rules of the institution or establishments with which I undertake to study or train.
(d) to refrain from engaging in political activities, or any form of employment for profit or gain.
(e) to submit any progress report or evaluation questionnaires which may be prescribed.
(f) to return to my home country at the end of my course of study or training.

I also fully understand that if granted a training award it may be subsequently withdrawn if I fail to make adequate progress, or for other sufficient cause including physical conditions determined by the Government of Japan.

Date: ..... Signature: .....

**PART B** To be completed by nominee's Director or Head of Department.

**OBSERVATIONS OF NOMINATING ORGANIZATION**

1 Describe what work the nominee will be expected to do on his return.

.....

.....

.....

2 Explain how the proposed training will be of benefit to the work of your organization.

.....

.....

.....

3 (For Non-Group Training only)

Describe:

1) Subject area of the training required.

.....

.....

.....

.....

.....

2) Special subjects which are particularly important and should be included in the training program (continue on an additional sheet if necessary).

.....

.....

.....

.....

.....

3) Period of training required (from/to).

.....

4) Notice required before nominee can be released from present post.

.....

**PART C** To be completed and signed by a responsible government official.

**OFFICIAL NOMINATION**

I certify that:

I have examined the documents in this form and I am satisfied that they are authentic and relate to the nominee.

I accordingly nominate this person on behalf of the Government of .....

Date: ..... Signature: .....

Position: ..... Name: .....

Official stamp

Organization: .....

# MEDICAL HISTORY AND EXAMINATION FOR JICA TRAINING AWARD

| MEDICAL HISTORY TO BE COMPLETED BY NOMINEE | | | |
|---|---|---|---|
| 1 NAME OF NOMINEE(last name, first name, middle name) | | | |
| 2 DATE OF BIRTH (mo/day/yr) | 3 NATIONALITY | 4 SEX<br>_____ male<br>_____ female | 5 ADDRESS FOR CONTACT |
| 6 NAME OF TRAINING COURSE/SEMINAR | | | |
| 7 LENGTH OF TRAINING COURSE/SEMINAR (weeks, months) | | | |

8 IMPORTANT NOTICE

Before you complete the Medical History Questionnaire, you are hereby notified that:

A medical condition resulting from an undisclosed pre-existing condition may not be financially compen sated for by JICA and may result in termination of your training program.

I understand and accept the terms of this notice. _____ Yes _____ No

**9 NOMINEE WILL CHECK "YES" OR "NO" AND EXPLAIN**

| | YES | NO | | EXPLANATION |
|---|---|---|---|---|
| a. | | | Have you had any significant or serious illness or injury? (If hospitalized, give place & dates.) | |
| b. | | | Have you had any operations or advice by a physician to have an operation? (Give place & dates.) | |
| c. | | | Do you currently use any drugs for treatment of a medial condition? (Give name & dose.) | |
| d. | | | Have you ever been a patient in a mental hospital or sanitarium or treated by a Psychiatrist? (Give place & dates.) | |

**10 NOMINEE WILL INDICATE "YES" OR "NO" TO EACH ITEM**

**DO YOU NOW HAVE OR HAVE YOU EVER HAD THE CONDITIONS LISTED BELOW?**

(Check each item, if yes, enclose the relevant condition with a circle.)

| | YES | NO | CONDITION |
|---|---|---|---|
| a. | | | Asthma, emphysema, or other lung conditions |
| b. | | | Tuberculosis or live with anyone who has tuberculosis |
| c. | | | High blood pressure, heart disease |
| d. | | | Stomach, liver (hepatitis), gall bladder disease |
| e. | | | Kidney or bladder disease, stone or blood in urine |
| f. | | | Diabetes (sugar in the urine) |
| g. | | | Depression, excess worry, attempted suicide, or other psychological symptoms |
| h. | | | Acquired Immune Deficiency Syndrome (AIDS) |
| i. | | | Tumor, abnormal growth, cyst, or cancer |
| j. | | | Bleeding disorder, blood disease (sickle cell anemia) |

**I CERTIFY THAT I HAVE READ THE ABOVE INSTRUCTIONS AND ANSWERED ALL QUESTIONS TRULY AND COMPLETELY TO THE BEST OF MY KNOWLEDGE.**

| 11 PRINTED NAME OF NOMINEE | 12 DATE | 13 SIGNATURE OF NOMINEE |
|---|---|---|
| | | |