

# The Research Partnership between TMDU and Noguchi Memorial Institute for Medical Research, Ghana: Prospects for the Next Step

Ghana-Tokyo Medical and Dental University Research Collaboration Center

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## Research Collaboration in West Africa

Our international research collaboration project between Japan and Ghana started in 2008 as part of the Program for Founding Research Centers for Emerging and Reemerging Infectious Diseases sponsored by the Ministry of Education, Culture, Sports and Technology (MEXT). The aim of this program is to promote on-site research into infectious diseases to improve public health in Japan and the counterpart countries, as well as to develop human resources in the field of infectious disease research. We are now in the second phase of the MEXT program, which is named the Japan Initiative for Global Network on Infectious Diseases (J-GRID). From a global point of view, sub-Saharan Africa is an area with an urgent need for the control of infectious diseases. There are only two J-GRID projects being implemented in Africa. One is the project at our Ghana Center in West Africa, and the other is at the Zambia Center in East Africa. In this sense, our situation in the MEXT project is quite important, and it is expected to lead to expanded and more intensive research collaboration between Africa and Japan.

**Professor Kwadwo Koram**, Director of NMIMR and Visiting Professor at TMDU.



Our counterpart in Ghana is the Noguchi Memorial Institute for Medical Research (NMIMR). Using the MEXT scheme, TMDU founded its International Collaboration Center at NMIMR in 2008. Since then, two researchers, Professors Eiji Ido and Takashi Suzuki, have been dispatched to the collaboration center at NMIMR, to implement research and to promote the exchange of students and researchers between TMDU and NMIMR. 2013 was the penultimate year of the five-year J-GRID program, and activities were focused on laying the foundation for the next stage of J-GRID. All the researchers involved made every effort to expand the collaboration. Professor Kwadwo A. Koram, Director of NMIMR, was appointed Visiting Professor at TMDU to promote a tighter partnership between the two institutions. Based on the achievements of the past few years, the members are looking forward to future collaborative research.

Virology and Parasitology are the two main components of our research project. HIV and viral hemorrhagic fever are the topics of our virology research. Both diseases represent a serious health problem in the West African sub-region. The main targets of our parasitology research are malaria and trypanosomiasis. All of these are globally significant diseases, with pathogens specific to Africa. This means that Japanese researchers have had direct access to the pathogens, which is an important opportunity for researchers in infectious disease. Our collaborative center provided unique and significant opportunities for the Japanese researchers, and TMDU is expected to maintain and expand this research collaboration project.

## Education and Training in Ghana

One of the aims of our international collaboration center at NMIMR was to promote exchange in education and training, as well as in research. For this purpose, several mutual visits were arranged between Ghana and Japan, and more than 20



young Japanese and Ghanaian staff and students have visited each other in the past two years. In order to provide young Japanese students and researchers with experience in an African setting, we sought to establish a procedure for dispatching Japanese undergraduate students to Ghana. In the past two years, medical students from TMDU were dispatched to NMIMR to join the MEXT research project. In 2013, TMDU started official support by covering part of the living costs of Japanese students in Ghana, enabling them to focus on their research in tropical diseases. The Japanese Association in Ghana is also expected to strengthen its research collaboration between Ghana and Japan. Ohayo Ghana Foundation, a Japanese NGO, is also working to support our medical students in Ghana. This encourages the Japanese students to pursue more intensive exchanges with Ghanaian researchers and students.

On the other hand, encouraging young Ghanaian researchers is another obligation of our exchange. Based on the agreement, TMDU has invited young researchers of NMIMR for training in conducting laboratory experiments. Although they were short-term experiences, young Ghanaians enjoyed the training, and the opportunity to engage with Japanese culture and people.

The TMDU students who went to Ghana were so impressed by their experiences that they planned to introduce Ghanaian foods at the 2013 Ochanomizusai Student Festival where they set up a Ghana kitchen. For their efforts at the festival, they won the President's Award.

## Kind Support from the Governments of Ghana and Japan

Our project in Ghana is now well known in both the Embassies of Ghana and Japan. It is expected to continue as an on-going project for collaborative research, and education and training. At the Ghanaian Embassy in Japan, the TMDU students visited the Ghanaian Ambassador before going to

Ghana. In October 2013, students visited the Embassy and met Mr. Edmond Kofi Deh, the Ambassador to Japan. He expressed his pleasure that we would be going to Ghana, and kindly wished us well in strengthening the collaboration between Ghana and Japan.

The support from the Embassy of Japan in Ghana is very encouraging. Our project is not a governmental activity, but the Japanese Embassy understands the importance of research exchanges between Ghana and Japan. The TMDU team is glad to have the kind support of the Japanese Embassy in arranging various diplomatic matters, which is essential in enabling us to carry out international exchange. For the students from TMDU, it is a good opportunity to experience medical care in a developing country like Ghana. They come to understand what needs to be improved, but they also gain an understanding of important matters that should be observed even in a developed country like Japan. The medical officer at the Embassy is always supportive of the TMDU students in Ghana.

With help from various organizations, the collaboration project between TMDU and NMIMR is making steady improvement towards the future.



① Research collaboration in a parasitology laboratory.  
② TMDU staff visit Vice Chancellor, Professor Aryeetey, to discuss further collaboration between TMDU and the University of Ghana.  
③ TMDU students visit Professor Koram, Director of NMIMR.

TMDU students visit the Ambassador of Ghana to Japan.

# Toward Implementation of a National Cancer Screening Program in Latin America and Joint Degree Courses with the University of Chile

Latin American Collaborative Research Center,  
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## LACRC Activities in 2013

The Latin America Collaborative Research Center (LACRC), located within Clinica Las Condes (CLC) in Santiago, Chile, is operated by three TMDU doctors, Hiroshi Kawachi (pathologist, in Chile since March 2012), Maki Kobayashi (molecular biologist, since July 2012), and Takuya Okada (endoscopist, since April 2013). They will be joined by two other medical doctors, Masahiro Tsubaki (colorectal surgeon, from October 2014) and Tomoyuki Odagaki (endoscopist, from November 2014). LACRC is a center for supporting implementation of the national colorectal cancer screening program, not only in Chile but also in other Latin American countries such as Ecuador, Paraguay, and Brazil. LACRC is also a TMDU overseas activity center for research and education, and it will be developed into an overseas graduate school of TMDU. As such it will offer joint degree courses with the University of Chile for young Latin American doctors who will lead the gastrointestinal cancer prevention program in their respective countries. The Japanese community in Chile has given generous assistance to the LACRC staff in their daily life.

## Projects in Chile

The pilot project for colorectal cancer screening has expanded from Santiago to other cities in Chile, including Punta Arenas (since May 2012),

Valparaíso (since June 2012), La Serena (since March 2014), Antofagasta (since April 2014), and Osorno (since March 2014). This rapid expansion of the screening program in Chile has been possible not only due to the efforts of CLC and LACRC, but also thanks to support from the Chilean Ministry of Health. Through the strong leadership of the Minister, Dr. Jaime Mañalich, colorectal cancer has recently been designated as one of the diseases targeted by the governmental health promotion strategy. Consequently, screening, diagnosis, and treatment are fully covered by national medical insurance. The screening project is now gaining popularity among Chileans thanks to the efforts of the media (Fig. 1). In August 2013, the TMDU mission headed by President Ohyama attended the opening ceremonies of new endoscopy centers for implementation of the screening project in Hospital Dr. Eduardo Pereira, Valparaíso, and Hospital Base San José de Osorno (Fig. 2). He also signed an agreement for collaboration between TMDU and the University Austral of Chile in research and education.

The Chilean-Japanese Institute for Digestive Diseases located in National Hospital Clínico San Borja Arriarán in Santiago is working as a training center for the screening project. The Institute's endoscopy unit was renewed for the project, and training activities started with induction of the first Chilean trainee, Dr. Pamela Briones, from Hospital Sótero del Río, in October 2013 (Fig. 3). She successfully completed the three-month training course and was awarded a certificate from TMDU and Ministry of Health of Chile, which allows her to participate in the relevant colorectal cancer screening program held in her home city.

## Projects in Ecuador and Paraguay

In Ecuador, a colorectal cancer screening project started from January 2012 at National Hospital Pablo Arturo Suarez, with the support of TMDU and JICA. The TMDU mission headed by Presi-



1 Interview by a CNN reporter about the colorectal cancer screening project in Chile.

2 Interview with President Ohyama by a domestic television reporter about the project.

3 Colonoscopy training by Dr. Okada at the Chilean-Japanese Institute, Santiago.

4 Chance meeting of President Ohyama with the President of Ecuador.

dent Ohyama visited Quito for a one-day TMDU conference on digestive diseases in August 2013. LACRC doctors in Chile visited Quito in February, April, June, August, and October 2013 to provide knowledge and practical training for the screening. The president of Ecuador, Mr. Rafael Correa, acknowledged TMDU and offered encouragement for its activities in Ecuador when President Ohyama met him by chance at a resort hotel during Sunday recreation time (Fig. 4). TMDU and CLC also agreed to support a colorectal cancer screening project in Paraguay, in response to a request last year from the president of Paraguay, Dr. Federico Franco. Dr. Kawachi from TMDU and Dr. Francisco Lopez from CLC attended a signing ceremony for the agreement in Asunción on June 6, 2013.

## METI Project for Brazil

The Japanese Ministry of Economy, Trade, and Industry (METI) has recently encouraged TMDU to proceed with its activities in Latin America for distributing knowledge and techniques using Japanese medical products, especially in Brazil considering the size of its population. In July 2013, supported by a METI grant, TMDU formed a consortium with Fujifilm Corporation (endoscopes) and Eiken Chemical Co., Ltd (immunological fecal occult blood tests) to implement the METI

project. The METI project will provide a “Japanese flag” for TMDU activities in Brazil. The first mission of the consortium visited São Paulo in October 2013, and agreed to collaborate with three major hospitals including the University of São Paulo. Doctors and nurse coordinators were invited to CLC in September 2013 and January 2014 to receive guidance and training for a pilot study of colorectal cancer screening in each hospital.

## Joint Degree Courses

When the TMDU mission visited the University of Chile in August 2013, President Ohyama presented his concept and ideas for joint degree courses between the two universities supported by CLC. The concept for the joint degree course basically follows the strategy of the Japanese government for promoting globalization of Japanese universities. Representatives from the University of Chile agreed with the concept, and they proposed forming a working group from both sides to discuss and prepare in more detail, including the curriculum. According to this agreement, three members of a mission from Chile visited TMDU in November 2013 to propose a basic structure for the joint degree courses and further collaborations in a post graduate nurse training program and a lung cancer screening project for copper miners in Chile (Fig. 5).

5 Meeting for joint degree courses between TMDU and the University of Chile.



# Expanding the Medical and Dental Network in Southeast Asia and Japan

CU-TMDU Research and Education Collaboration Center, Thailand

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## Providing Information about TMDU

TMDU was an exhibitor at the 2nd IADR-APR in Bangkok, Thailand, which was held on August 21-23, 2013. Our purpose was to provide information about TMDU and our graduate school (Dentistry) to prospective PhD candidates. We displayed a TMDU academic gown at our booth and provided pamphlets and advice to interested students. TMDU alumni also visited our booth to say "Hello" and it became the designated spot for alumni to meet up and have a reunion.

## Student Exchange Programs between CU and TMDU

In 2013, two medical and ten dental undergraduate students and three postgraduate students from CU visited TMDU, and took part in medical/dental training programs. From TMDU, three fourth-year medical students spent five months in CU during their project semester. Fourteen

fourth-year dental students (Schools of Dentistry and Oral Health Care Sciences) also spent two weeks in CU. The TMDU students engaged in basic research, attended the English class, observed the CU university hospital and private clinics, and experienced community health care activities in Thailand. They also enjoyed discussions with Thai Faculty staff and students, and reported that the program increased their interests in international exchange, as well as improving their English skills, presentation skills, and medical/dental knowledge.

These student exchange programs were financially supported by the Re-inventing Japan Project, scholarships from JASSO (Japan Student Service Organization), Lion Futokukai and TMDU funds. We expect that the exchange programs for young students will contribute to an expanded medical and dental network in Southeast Asia and Japan in the future.

## Global Retreat in the Rayong District

Forty-eight students and staff from CU and TMDU participated in a stay-over Global Retreat in the Rayong district, Thailand. Programs included group discussion, a presentation about the ideal dental curriculum, a special lecture in English, and cultural exchanges. In this retreat, students were encouraged to express their opinions in English.

For the cultural evening, the TMDU students held a Japanese tea ceremony and *Bon odori* dance wearing the traditional *yukata* costumes. They invited Dr. Suchit Poolthong (Dean, Faculty of dentistry, CU) and Dr. Prim Auychai (Associate Dean, Faculty of Dentistry, CU) to the ceremony with the spirit of "o-mo-te-na-shi." The Thai students performed a traditional Thai dance. All the students enjoyed this global retreat and deepened mutual understanding and friendship.

TMDU exhibition booth at IADR-APR.



## Dental Seminar and Consultation for Japanese Residents

The second Dental Seminar and Consultation was held for the students of the Thai Japanese Association School in Bangkok and their parents or guardians, on September 8, 2013. It was managed by the CU-TMDU Center and TMDU International Exchange Center, with support from the Thai Japanese Association School and Japan Dental Alumni of Thailand (JDAT).

In the seminars, nine TMDU dental faculty staff gave lectures and offered individual dental consultations. Each consultation was carried out by a two-person team, consisting of a member from the TMDU Faculty of Dentistry and a Japanese-speaking Thai dentist (JDAT member) with the same specialty. They provided up-to-date information and advice on treatment in Japan and Thailand. Continuing these kinds of activities and expanding the amount of information available to Japanese living in Thailand must be important for future dentistry.

## Oral Health Education for Pre-School Children at a Kindergarten

On September 9, 2013, TMDU dental students went to Bangkok to participate in an overseas

exchange program, gave instructions pre-school children (3-5 years old) at Rainbow Kindergarten on how to brush their teeth and maintain oral hygiene.

Many children of Japanese expats in Thailand attend the kindergarten, and this was the second time to hold this project. The TMDU students broke into teams to give instructions on the importance of tooth-brushing, good nutrition and hand washing to each age group.

They also provided toothbrushes from Japan to each child, along with posters illustrating proper tooth brushing techniques and a tooth-brushing calendar that the students made by themselves. These are the health support activities offered by the CU-TMDU Center for Japanese residents in Thailand.



TMDU students prepared oral health education materials for pre-school children.

## The Second Dental Seminar and Consultation

1. Dr. Zusei Kanno (Orthodontics)  
"Learn about teeth alignment - orthodontic treatment for children in a growth period -"
2. Dr. Haruko Fujita (Pediatric Dentistry)  
"How to prevent dental caries? When are deciduous teeth replaced by permanent teeth?"
3. Dr. Tomonari Suda (Periodontics)  
"Periodontal diseases and treatments - maintaining your gums healthy -"
4. Dr. Shinji Kuroda (Dental Implant Clinic)  
"Dental implant prostheses - artificial teeth alternative to the missing teeth -"
5. Dr. Norihisa Higashihori (Orthodontics)  
"Learn about teeth alignment - orthodontic treatment for children in a growth period -"
6. Dr. Yoshiaki Ono (Pediatric Dentistry)  
"How to prepare your children to cooperate well in a dental visit"
7. Dr. Yasuyuki Michi (Maxillofacial Surgery)  
"Why wisdom teeth should be extracted?"
8. Dr. Naoko Seki (Operative Dentistry)  
"Tooth Whitening"
9. Dr. Yuji Fukui (Prosthodontics)  
"Bruxism, metal-free dental treatment"

- 1 Students who participated in the dental training program.
- 2 Oral presentation at the global retreat.
- 3 The TMDU staff and JDAT members who participated in the dental seminar and consultation project.