

# Growing TMDU Network in Latin American Countries; Academic, Educational and Clinical Collaborations

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**IN 1968, PROFESSOR** Tadashige Murakami, former professor of surgery of TMDU, visited Chile to give a lecture on gastric cancer. This was the start of the long relationship between TMDU and Chile. In the 1970s, the Japan International Cooperation Agency (JICA) launched a project for the early detection of gastric cancers in order to reduce their high mortality rate. The Gastric Cancer Center in Santiago was founded in 1977 at the Hospital Paula Jaraquemada (now the Hospital Clinico San Borja Arriaran), and this center has long played a major role in the project. TMDU has dispatched numerous experts there to support the prevention of gastric cancer. The Gastric Cancer Center was later renamed the Chilean-Japanese Institute for Digestive Diseases, and it still contributes to maintaining the health of the Chilean people.

## Colorectal Cancer Screening in Chile, Supported by TMDU

In Chile, the mortality from colorectal cancer has been increasing in the last two decades, and thus the need for colorectal cancer screening has grown rapidly. Approval was given in 2009 to start a screening project based on a proposal from Dr. Lopez of the Clinica Las Condes (CLC), one of the biggest and most advanced hospitals in Chile. Due to the long history between TMDU and Chile, our university was invited to supervise the project. In 2009, the Ministry of Health of Chile, CLC and TMDU signed

a collaboration agreement concerning colorectal cancer screening (Fig. 1), and the Latin American Collaborative Research Center (LACRC) was established at CLC in 2010. Over the years, TMDU has continuously sent experts in pathology, endoscopy and research to LACRC. Since 2012, PRENEC (the Prevention Project for Neoplasia of Colon and Rectum) has been implemented in three major cities: Punta Arenas, Valparaíso and Santiago. In each place, the Japanese method using immunological fecal occult blood test and colonoscopy has been adopted for the detection of colorectal cancer.

The Chilean-Japanese Institute for Digestive Diseases at the Hospital San Borja Arriaran is the headquarters of PRENEC in Santiago. The institute also serves as a training center for endoscopy. Many Chilean doctors have taken a training course in endoscopy, acquiring the skills required for colorectal cancer screening with colonoscopy (Fig. 2). The institute's endoscopy unit has been redesigned for PRENEC, with extensive support from the Japanese Embassy in Chile.

## LACRC Members and University Activities

LACRC has been staffed by experts from the pathology, endoscopy and molecular biology of TMDU, and various doctors have been involved since the center's inception. As of 2015, LACRC has been operated by five TMDU doctors; Dr. Hiroshi Kawachi (pathologist; March 2012 to March 2015), Dr. Maki Kobayashi (molecular biologist; July 2012 to March 2015), Dr. Takuya Okada (endoscopist; April 2013 to March 2015), Dr. Masahiro Tsubaki (endoscopist; October 2014 to September 2015) and Dr. Tomoyuki Odagaki (endoscopist; November 2014 to present).

## Public Releases of PRENEC Results in Medical Journals and Congresses

The colorectal cancer screening system at



PRENEC has achieved exceptional results. From June 2012 to July 2014, a total of 10,575 asymptomatic individuals enrolled in PRENEC. Colorectal cancer was detected in one hundred and seven cases, amounting to 1.01% of all participants. The detection rate of the previous screening system in Chile was 0.2%. Most of the cancers detected using PRENEC were early intramucosal cancers without risk of metastasis, and these lesions were treated successfully by endoscopy.

These results have been reported in various medical journals and congresses, most notably in an article by Dr. Okada in the prestigious journal Cancer (DOI: 10.1002/cncr.29715). A paper by Dr. Ito regarding the standardized protocol of pathology in PRENEC was also accepted for publication in the Chilean medical journal Gastroenterologia Latinoamericana. Dr. Odagaki presented on PRENEC at international congresses in countries such as Lima, Peru and Quito, Ecuador (Fig. 3). More reports related to PRENEC results are in progress for future publication.

## Spreading Network of TMDU-PRENEC in Latin-America

PRENEC and supportive activities by TMDU are now recognized as essential aspects of Chilean health care. Increasing numbers of participants have steadily enrolled in PRENEC in three cities: Santiago, Valparaíso and Punta Arenas. As TMDU and local doctors have provided an incentive to the government of Chile, TMDU-PRENEC network is spreading. At present, three more cities—Osorno, Valdivia and Vallenar—have concluded agreements to start PRENEC, and five more cities or facilities are scheduled to participate in the future: Coquimbo, Concepción, Antofagasta, Iquique, and the Nacional Cancer Institute in Santiago.

TMDU has also tried to promote the same screening system in other Latin-American coun-

ties, in association with JICA and the International Cooperation Agency of Chile (AGCI). In August 2015, the First International Training Course for Colorectal Cancer Screening took place in Santiago. TMDU experts participated in the course as instructors and gave lectures to doctors from Ecuador and Colombia. In August 2016, the Second International Training Course was held in Santiago. Dr. Ito and Dr. Okada from TMDU and Dr. Odagaki from LACRC gave special lectures to twelve medical professionals from Bolivia and Paraguay (Fig. 4, 5).

## Projects in Ecuador and Paraguay

TMDU came to an agreement regarding a cancer screening program with the government of Ecuador in 2012. At that time, a pilot project for colorectal cancer screening was being carried out at the National Hospital Pablo Arturo Suarez in Quito, with clinical and project management support from TMDU. LACRC sent doctors from Chile to Ecuador several times for discussions and to make suggestions concerning the cancer screening system. Academically speaking, the Ministry of Health of Ecuador holds annual medical congresses in Quito, and TMDU professors are regularly invited as presenters. Finally, in Paraguay TMDU agreed to a direct request from the President of Paraguay for support for the colorectal cancer screening project. Dr. Kawachi from TMDU attended a signing ceremony for the agreement held in Asunción in June 2013.



① Colonoscopy training for Chilean doctors by Dr. Tsubaki and Dr. Okada

② Presentation by Dr. Odagaki at a congress of the American College of Surgeons in Lima, Peru

③ Presentation by Dr. Ito at a JICA/AGCI International Training Course

Conclusion of an agreement for colorectal cancer screening between the Chilean Ministry of Health, CLC and TMDU

Guidance concerning colonoscopy technique by Dr. Okada to doctors from Bolivia



# Activities for strengthening relationships between TMDU and Thai universities

CU-TMDU Research and Education Collaboration Center, Thailand

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## 1. Prof. Petchara Techakumpuch receives TMDU Honorary Degree

On February 11, 2016, Tokyo Medical Dental University (TMDU) awarded an Honorary Degree to Prof. Petchara Techakumpuch for her great contribution in implementing academic collaboration between TMDU and Chulalongkorn University (CU). Prof. Petchara was the dean of the dental school in CU when the first Memorandum of Understanding (MoU) was signed between the two dental schools in 1991. Since then many projects have been carried out between the two universities. In 2010, the CU-TMDU Research and Education Collaboration Center was established on the CU campus. This vigorous promotion of international exchange has stemmed from Prof. Petchara's wisdom and foresight.

The honorary degree ceremony was held at the main hall in the CU campus. Prof. Pirom Kamolratanakul (President of CU), Prof. Suttipong Wacharasindhu (Dean of CU Medical School), Assistant Prof. Suchit Poolthong (Dean of CU Dental School) and many distinguished delegates from CU and TMDU participated. TMDU alumni members from CU also attended the ceremony dressed in TMDU's academic black gowns.

Prof. Yujiro Tanaka (Executive Director and Executive Vice President of TMDU) praised Prof. Petchara's achievements and gave her the Certificate of Honorary Degree. Following that, she made a memorable speech about her appreciation

for both the degree and the continuous support from TMDU. After the ceremony, everyone enjoyed a party where participants further strengthened their friendships.

## 2. Discussion about medical collaboration with CU and Mahidol University

Prof. Yujiro Tanaka and Prof. Satoshi Miyake (Dept. of Clinical Oncology) visited CU Medical School and discussed the mutual student exchange program with Dr. Unnop Jaisamrarn (Assistant Dean for International Affairs) on February 11, 2016. This time CU asked TMDU to increase the number of CU students in the exchange program, as this program has been greatly beneficial for them.

On February 12, Prof. Tanaka and Prof. Miyake visited Mahidol University campus at Salaya and spoke with Prof. Sansanee Chaiyaroj (Vice President for Research and International Relations) about the new MoU. The new MoU concerns a new University Unit designed to implement more active exchange projects. They also visited the Faculty of Medicine at Siriraj Hospital of Mahidol University, and talked about future collaboration projects between the two universities.

## 3. Signing ceremony for Memorandum of Understanding

Prof. Keiji Moriyama (Dean of TMDU Dental School) and Assistant Prof. Suchit Poolthong (Dean of CU Dental School) signed a MoU between the two dental schools on February 11, 2016. This was a renewal of the agreement to promote mutual cooperation and exchange projects between the two dental schools.

There has been a long history (more than 25 years) of mutual collaboration between TMDU and CU since the first MoU was signed in 1991. TMDU has accepted many Thai students into the doctoral course and at present about 40 dental alumni who received PhDs at TMDU are working



as academic scholars in the Faculty of Dentistry in CU. In recent years, various exchange programs for undergraduate and postgraduate students have been actively conducted, with the support of the Re-Inventing Japan Project.

In 2016, TMDU and CU implemented a new five-year international doctoral joint degree program in Dentistry (Orthodontics). Three Thai students enrolled in this program in August. The new academic affiliation agreement will contribute to strengthen dental networking between TMDU and CU.

## 4. Student exchange program in health care sciences

From August 20-29, 2016, five students in the School of Health Care Sciences (Ms. Wakana Sato, Ms. Chinami Onchi, Ms. Ayane Ono, Ms. Mutsumi Gotanda and Mr. Kosuke Shinoda) visited the Faculty of Allied Health Sciences in CU and participated in a training program. They observed the experiments in the medical laboratory of the hospital and joined the medical biology class where they studied along with CU undergraduate students.

Moreover, they had opportunities to participate in local community health center activities in Saraburi Province. Under the supervision of university teachers and community health staff, CU 4th year students conducted free health check-ups for the residents, including measurements of

weight and height, blood tests, urine tests, nutrition counseling and physiotherapy. TMDU students assisted with these activities.

They found that knowledge and technological techniques in Thai medicine are not so different from Japan in the urban hospital laboratory. However, the situation in rural areas is quite different. Participation in these health checkup activities for local people was an interesting experience for the TMDU students, as they had not yet experienced clinical activities.

## 5. Research Day program in CU

Mr. Yuta Ikami and Mr. Shion Orikasa (5th year dental students) visited CU and participated in the Research Day program on January 27, 2016. This is a special program for dental students to present their research activities as part of a competition. Since 2013, TMDU has sent dental students to participate in this program every year. Mr. Ikami and Mr. Orikasa presented their research topics orally in front of an audience of more than 100. Mr. Orikasa won a prize in the Oral Biology session and received the oral competition award from Dean Suchit. Prof. Sachiko Iseki (Dept. of Molecular Craniofacial Embryology) and Dr. Keiichi Morita (Dept. of Maxillofacial Surgery) also participated in the CU Research Day and contributed as an evaluator of the oral session and chair of the poster session, respectively.



① Prof. Tanaka and Prof. Miyake visited Mahidol University and met Prof. Sansanee Chaiyaroj (Vice President for Research and International Relations)

② Four TMDU students in the School of Health Care Sciences visited CU and participated in a training program

③ Students helped administer health check-up activities for residents in Saraburi Province

④ Signing Ceremony for Memorandum of Understanding between Dental Schools in TMDU and CU

⑤ Mr. Orikasa, a 5th year dental student, won a prize in the "Oral Biology" session in the Research Day program at CU



Prof. Tanaka gave the Certificate of Honorary Degree to Prof. Petchara at the Honorary Degree Ceremony

After the ceremony, Prof. Petchara and TMDU delegates and TMDU alumni members took a commemorative photo





# Research Partnership between TMDU and Noguchi Memorial Institute for Medical Research, University of Ghana: partnership strengthening and constructing an intra-African network Ghana-Tokyo Medical and Dental University Research Collaboration Center

Ghana-Tokyo Medical and Dental University Research Collaboration Center

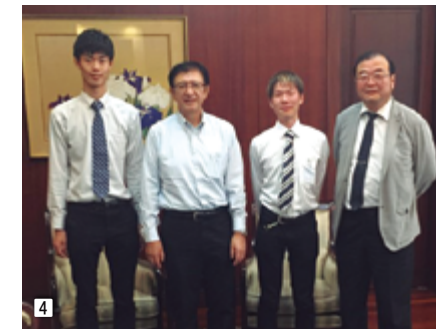
## Project re-started in West Africa

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 Japanese Ministry of Education, Culture, Sports and Technology (MEXT), and became the Japan Initiative for Global Network on Infectious Diseases (J-GRID) program with a minor modification in the scheme. The J-GRTID project finished at the end of Japanese fiscal year 2014, but the program was restarted under the new scheme arranged by the Japan Agency for Medical Research and Development (AMED). Our counterpart in Ghana is the Noguchi Memorial Institute for Medical Research (NMIMR). Dr. Mitsuko Ohashi, Project Lecturer of TMDU was dispatched to Ghana as the Team leader in 2015. Two years have passed since the restart, and we are realizing research outcomes from this AMED/J-GRID joint project. The main focus of the AMED/J-GRID program is to promote innovative research collaboration with counterpart researchers, such as new drugs, new diagnostics, and/or vaccines. Under this scheme, AMED has also made a strong request for infor-

mation sharing with the National Institute of Infectious Diseases. Under this basic concept, our AMED/J-GRID project has been implemented to collect genetic information concerning Dengue/Chikungunya viruses prevalent in Africa, and to analyze molecular profiles of causative agents of diarrheal diseases in Africa, both of which being important information for developing new medications and/or vaccines. Another theme is to develop new drugs from Ghanaian plant materials to combat protozoan diseases. To achieve research and development more efficiently, we invite Japanese experts from various domestic institutions such as the National Institute of Infectious Diseases (NIID), Nagasaki International University, and Fujita Health Science University to join us. In this sense, we have built an "all Japan collaboration team" for the AMED/J-GRID project in Ghana.

## Intra-African network for joint research projects on health matters between Japan and Africa

2016 was somehow an epoch-making year because the Tokyo International Conference on African Development (TICAD VI) was held outside of Japan for the first time in Kenya. Improv-



ing the health situation is an important issue, as was stated in Sustainable Development Goals issued by WHO, and the Japanese Government also proposed commitment to improve the health situation in African countries along with strengthening other matters of economic and social development. After the joint declaration released in Kenya at the TICAD VI meeting, a joint symposium was planned to discuss more specifically about Japan-Africa research collaboration on health issues. In September 2016, TMDU joined a symposium held in Nairobi, Kenya where Nagasaki University (Kenya), Hokkaido University (Zambia), Jikei Medical University Burkina Faso), NIID (Ghana), National Mie Hospital (Ghana) were also present. Our TMDU-Ghana project reported the current situation and research outcomes, and raised a proposal to perform effective research collaboration, and emphasized the importance of sharing scientific information among Japan-Africa research projects. There are several difficulties to implementing joint research between Japan and African counterparts due to the geographic distances, insufficient infrastructure for experimental research, and research fields being too broad, to name a few. Together with opinions and suggestions from African researchers, it was concluded that a network system should be built to share information in order to overcome those difficulties.

## Partnership with NMIMR and more

Since Ghana's independence in 1957, cooperation between Japan and Ghana has been performed in various aspects of social and scientific development. In the field of health sciences, NMIMR was established through the support of the Japanese Government in 1979. Since then, many cooperation projects between Japanese institutions and NMIMR have been implemented. As mentioned above, TMDU became a NMIMR partner in 2008. Since then, various cooperative activities

have been performed not only in research, but also in education and human development. There is a program to dispatch undergraduate students to NMIMR for a few months to experience conducting research in developing countries like Ghana. It is a good occasion for our medical students to better understand the health problems faced by developing countries, and some of students come to consider it seriously as their future career. Two medical students were dispatched to Ghana in 2016. From NMIMR, TMDU accepted young and talented researchers as PhD students under the scholarship program of the Japanese Government. In the last 5 years, 8 PhD students from NMIMR were supported to join TMDU's Graduate School. Based on our small-scale exchange program, TMDU decided to expand more intensive exchange activities not only with NMIMR, but also with the University of Ghana. President Y. Yoshizawa, of TMDU, visited Ghana in October 2016, and talked with Vice-Chancellor E.O. Owusu, of University of Ghana. An MOU of University-level exchange was signed and a new exchange scheme was started between the two universities. After the signing ceremony, a special lecture by President Yoshizawa was carried out in the main campus of the University of Ghana. NMIMR belongs to the College of Health Sciences of the University of Ghana. College of Health Sciences is composed of seven schools, such as the School of Medicine and Dentistry, the School of Public Health, and the School of Nursing. Along with NMIMR, it is a big benefit to have partnerships with those schools. Through this partnership promotion of scientific and human exchanges with those schools is expected in the future. In this sense, our partnership between TMDU and NMIMR has become deeper and broader, covering various fields of medical sciences. It is highly expected that a more intensive collaboration in both education and research will be promoted.

[3] Joint research on mosquitoes at NMIMR

[4] Courtesy visit to the Japanese Ambassador by TMDU medical students

[5] After TICAD symposium at Nairobi, Kenya



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signing ceremony