

Ghana-TMDU Collaborative Research Center Start of Our 2nd Phase Activities in 2010

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GHANA-TMDU COLLABORATIVE Research Center was established at the Noguchi Memorial Institute for Medical Research (NMIMR), University of Ghana, in 2008 as one of 12 Collaborative Research Centers in the J-GRID (Japan Initiative for Global Research Network on Infectious Diseases) program directed by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan. NMIMR is located in Accra, the capital city of Ghana, and the year of 2008 was 80th anniversary of Dr. Hideyo Noguchi death from yellow fever in Accra.

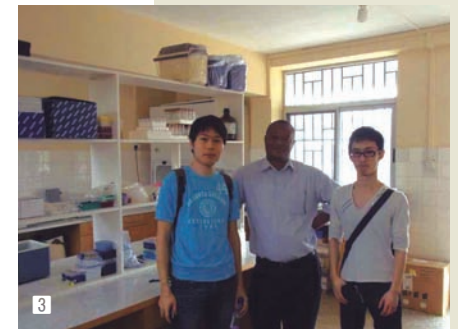
The partnership for medical research between Ghana and Japan has continued to enjoy a long history since the days of Dr. Noguchi. J-GRID was renewed as the 2nd phase of the MEXT program in 2010, and our Ghana center is expected to share increasing responsibility in J-GRID activities. The aims of J-GRID include the promotion of scientific research on infectious diseases, providing information of infectious diseases to the whole world as well as Japan, and development of human resources in the field of biomedical research on infectious diseases. Considering that many emerging infectious diseases occur in Africa, our Ghana center, located in the West African sub-region, have a very important role to play in the global network for disease-prevention and control.

In the 2nd phase program of J-GRID, our Ghana

center has continued activities under the initiative of the President of TMDU and Director of NMIMR, and TMDU has since dispatched two Japanese researchers to NMIMR. Professor Ido was nominated as the chief of Japanese researcher at NMIMR, and left to take up this new position in May 2010. Professor Ido is a specialist in the molecular epidemiology of HIV/AIDS. The other researcher dispatched from TMDU is Associate Professor Takashi Suzuki, whose specialty is the molecular analysis of African trypanosomes. Associate Professor Suzuki is continuing his work from the 1st phase project.

Our counterpart institution, NMIMR, is one of the most influential institutes for medical research in the West African sub-regions. NMIMR was established as a collaborative project between Ghanaian and Japanese Governments in 1979. Since then, many collaboration projects have been implemented through ODA schemes. This collaborative project is not an ODA, but it does aim to share the benefits mutually. For Japanese side, it is very important to maintain a strong foothold through joint research on infectious diseases in Africa, and the human network we create through collaborating with researches in Africa provides us with invaluable information about endemic diseases. Ready access to a wide variety of pathogens also provides younger researchers with the opportunity to be involved in hands-on research into infectious diseases. On the other hand, the TMDU staff attending NMIMR are established and prominent researchers in their respective research fields, and they play important roles in promoting research and instructing many young staff in collaboration with their NMIMR counterparts. Needless to say, our Ghanaian colleagues benefit greatly from access to essential and advanced equipment provided from Japan.

Ongoing research subjects in our Ghana center include virology and parasitology. HIV is the primary target for virology research. The treatment



- ① Laboratory of Parasitology in NMIMR
- ② Lecture on infectious diseases given by TMDU researchers.
- ③ TMDU students in Ghana Tomoki Kawahara (left) and Wataru Kagaya (right)

of HIV is guided by WHO, and the Ghanaian government has accepted the WHO standard. In line with these guidelines, ART (anti-retrovirus treatment) was introduced in Ghana. However, the WHO guidelines are based on viral information spreading throughout many western countries, but viral strains in African countries are different from those strains in America and/or Europe. Therefore, our research is essential in monitoring the efficiency of ART when applied to Ghanaian strains of HIV. Another research topic is molecular evolution of HIV. Recombination of the viral genome within the same human seems to drive the molecular evolution of HIV. Therefore, field surveys to detect hosts infected with multi-strain viruses, and follow-up studies on these hosts are providing interesting results. Professors Ido and Brandful of NMIMR are in charge of these studies.

Two main subjects are currently considered for parasitology research. African trypanosomiasis is a pathogen that causes sleeping sickness, for which there are still no safe and effective medicines. Dr. Suzuki and his counterparts from NMIMR are searching to find effective drug targets against the parasite, and several candidate molecules have been identified. Another subject is epidemiological research on parasitic diseases in the West African sub-region. Malaria, toxoplasmosis and trypanosomiasis are studied. The study has gathered a wide range of essential information, including the current situation of drug resistant malaria parasites, and ecological information of disease transmitting vector insects.

A new TMDU project related to the Ghana-TMDU center was started in 2010. TMDU undergraduate students are now able to choose where to do their research during the "Project Semester". In addition to London, other overseas TMDU centers including Ghana-TMDU are chosen by students. In 2010, four 4th year medical students visited the Ghana center to experience of

research on tropical diseases and the Ghanaian medical system. During their six weeks stay in Ghana, the students visited not only NMIMR, but also urban and rural health stations and hospitals, all of which were arranged by our Ghanaian colleagues. The activities of these students are also introduced in this issue. There is no doubt that the experiences these students had in Ghana will greatly bolster their future career as a medical doctor with a deep understanding of cultural differences. Out reach activities are also important for us, and TMDU researchers are invited to give seminars on infectious diseases for Japanese residents in Ghana.

In addition, we are hoping to establish a new cooperative relationship with a J-GRID center in Zambia that is maintained by Hokkaido University. These J-GRID centers are the only two established in Africa.

Finally, one of the most important aims of our Ghana-TMDU center is to promote mutual understanding. African culture is not necessarily an easy culture for Asian people to adapt to. However, exchanges among different cultures, ethnicities and religions are essential in expanding our horizons. Ghana has a great deal of natural beauty, history, and delicious local cuisine. We believe that the survival of human beings rests partly on the combination of our many differences, and we will continue our international activities in order to strengthen our mutual understanding.



African sunset in Ghana

Prof. Ido and Prof. Yamaoka are at the statue of Dr. Noguchi

