



**SATREPS** For the Earth, For the Next Generation

# Ghanaian Herbal Medicine Project

NEWSLETTER VOL. 1

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**A**kuwaaba(ようこそ) to the first edition of our Newsletter! We, the members of the Ghanaian herbal medicine project, which is a collaboration involving Tokyo Medical and Dental University (TMDU), Noguchi Memorial Institute for Medical Research (NMIMR), Nagasaki International University (NIU) and Center for Scientific Research into Plant Medicine (CSRPM), would like to share with you news and events related to the project. First of all, we are very honored to tell you the story of the recent big events concerning our Research Assistants (RAs), who have been working enthusiastically on the project in Ghana and who have the dream of visiting Japan. When the Director of SATREPS agency, Mr. Okaya visited Ghana for the joint Workshop held last December, the dreams of the RAs became a reality. After direct talk with RAs, Mr. Okaya agreed to arrange study trips to Japan for them. Mr. Okaya kindly sent a message to our first Newsletter as follows. We also received a message from Prof. Yamaoka, the chief adviser of our project. Finally, one of our excellent RAs, Mr. Isaac Tuffour has a report on his wonderful experience in NIU with some lovely pictures. The memoirs of other RAs will be released later on.



*Editors*



## Greetings to all in Ghana!

**I**t is my greatest privilege to make remarks in your first news letter. Dr. Noguchi is a legendary hero in Japan. Dr. Noguchi strived to become a doctor despite his handicapped hand as a result of a wound he sustained in his early days. I read his story as a school boy, which always invigorated people to study hard to become whom they aspire to be. He was a success story which led me to believe that the hard working attitude pay off someday. He was also a role model in that he became a true cosmopolitan who actively worked in the international arena and sacrificed his life for the quest of yellow fever in Africa.

After 84 years, I found some young Noguchi persons in Accra where Dr. Noguchi died. Eight '8 young Samurais as I call them, are the RAs of this collaborative project. I could see

from the glare of their eyes that they were highly motivated. With permission and encouragement from Director Nyarko, I managed to have them over in Japan for advancement of the project. Some of them visited us JST headquarters, and met with our Program Director, Prof, Yakushiji, the former member of Council on Science and Technology Policy Japan.

*“I have a dream; that the 8 samurais will follow the hard working attitude of Dr. Noguchi to bring tangible results.*

*I have a dream; that the young Noguchi will become the real Noguchi of the 21<sup>st</sup> century and be a source of blessing to Africa and the rest of the world.*

*I have a dream; that someday down the road, my hunch about the young Noguchi will prove to be right. “*

*Shig Okaya  
Director, SATREPS*



**Mr. Okaya with Ghanaian Young Researchers in Ghana.**



Tokyo, February 13, 2012

*Dear readers,*



**F**irst of all, I would thank all the readers of this Newsletter for being interested in our SATREPS Project, Studies of Anti-viral and Anti-parasitic Compounds from Selected Ghanaian Medicinal Plants, and would like to share such a great pleasure of carrying forward this international collaboration in Ghana and Japan. This Project is expected to contribute not only to the capacity development in Ghana in the fields of Microbiology and Pharmacology, but also to human resources development with particular emphasis on young generations. I believe that human resource is our true resource and that the progress in science depends on the persons involved. In this regard, the workshop held in December 2011 at Noguchi triggered international exchanges between Japanese and Ghanaian young scientists, and the dispatch of eight research assistants to Japan, which just started in January 2012 under JST's support, is greatly facilitating mutual understandings and providing them with invaluable opportunities to experience different cultures outside the lab and advanced science inside. Seeing is believing and working as a member of a counterpart's lab is adding something in their mind.

Please enjoy all the fantastic reports by the research assistants and encourage them in your favorite fashion. You can visit a web page and join free talks with young scientists participating in this Project.

<http://www.jst.go.jp/global/english/index.html>

Finally, I would profoundly thank Prof. Yakushiji, Mr. Okaya, Prof. Nyarko, Mr. Nikai, Mr. Inamura and all the Project members for their continued effort and exceptional support.

Warm regards,

*Shoji YAMAOKA  
The Chief Adviser*





# A journey to Japan



*Japanese Tea Ceremony*

As a burgeoning research scientist, knowledge and expertise acquisition from an advanced scientific environment in addition to my already gained knowledge has always been my penchant. I was filled with so much joy upon being informed about my pending trip to Japan. Not only was I happy to learn new scientific techniques but also new working cultures and meeting different people. Generally I was very anxious

and excited, but on my departure day, this great feeling partially gave in to nervousness. Perhaps because it was the first time I was travelling outside Ghana and for that matter the African continent.

The most memorable aspect of my trip to Japan was the numerous invaluable techniques I acquired in my laboratory thanks to Uto sensei. As part of my training, I learned more about cell culture using different cell lines; adhesive cells and cells in suspension. I really admired how cells were kept and maintained in the NIU laboratory; though many, yet activities on each cell line was properly documented. I learnt a new protocol for the MTT (tetrazolium) Assay. Apart from the protocol, I also learnt a new way of designing my assay plates so as to maximize the number of plant extracts per plate when performing an assay. I consciously and unconsciously picked up certain other vital cell culture skills which I have successfully inculcated into my present work in Ghana.

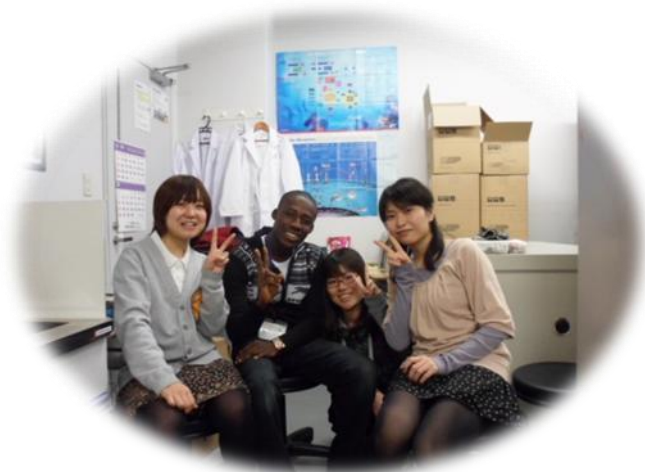
*“The mechanism of plant extract toxicity”* a phenomenon that bothered my mind was answered during my training at NIU. Dr Uto kindly took me through DNA ladder experiment to confirm the apoptosis inducing effects of some plant extracts and also Western blotting techniques to understand the molecular mechanism of such effects using Poly ADP Ribose Polymerase (PARP) as protein of interest. These techniques did not only give me a practical demonstration of my theoretical knowledge but also enlightened me to appreciate certain complex topics such as Cell Signaling. Knowledge of these techniques has boosted my confidence as a young



researcher. These notwithstanding, I really appreciated the setup of the Pharmacognosy Laboratory. All equipment, reagent and working materials were in place and available and that made work at NIU easier, interesting and fun. I was privileged to see certain equipment for the first time. Amongst these equipment include; NMR, Mass spectrometer, Electron microscope etc. I admired the conduct and working relations of staff in the laboratory. Dr. Tung (Post-doc.), Megumi-san, Oba-san and Ota-san (lab technicians) were all up to the task. They were so hospitable and friendly to me and I am glad I met them. Participating and presenting in the Tuesday journal club really inspired me. I enjoyed how publications were analyzed and the manner in which the department sought to generate new ideas and research opportunities from them. I must say that 'the NIU experience' is simply an epitome of an excellent learning experience.

Apart from the research, upon my arrival in Japan, one key attribute that was evident was Japanese warm hospitality. This gesture was shown to me not only by airport staff, but also Miss Akiyama (JICA person who met me at Kansai Airport), my hosts (Prof. Shoyama, Dr. Uto and Dr. Morinaga), friends and other people I came across. One other striking quality I admired was the working culture amongst Japanese.

Beginning from the lab, all staff and students showed dedication towards their duties. Students for instance, had well-organized notes that also contained simple diagrams/illustrations to guide them do their experiments. I liked the relationship that existed between students and their Sensei s; it was very cordial yet full of respect. Across cafeterias, shops and other official circles, attitude of most people towards work was sheer dedication. One obvious trait that characterized work was time consciousness. Meetings were held on time, all modes of transportation (buses, trains etc) worked within time schedules. This actually instills discipline; an attitude worth emulating by all including Ghanaians.



*With my best friends in the lab.*

Contrary to my initial assumption, I really enjoyed Japanese cuisine. I ate almost every Japanese meal I came across; Tenpura, Sushi, Loko moko, Curry and rice (Kareraisu), tofu, sashimi, live squid (ika), raw shrimp, misu soup, Soba etc. even though I was not able to master the use of the chopstick. I enjoyed these meals such that I had to give out the food (Gari and shito) I carried along to Japan as back up to friends as souvenir.

My stay in Japan would not have been memorable without my adorable friends; Araki-san, Sakamoto-san, Nakashima-san, Yuka-san, Gen-san. They affectionately nicknamed me Zak. I was able to learn a bit of Japanese language, customs and way of life from them. I recount the wonderful times we had chatting and eating together every lunch time at the NIU cafeteria.

I also remember our shopping dates at Donkey Hotte and dinner at Joyful. I cannot forget the moments we shared together cooking Tako-yaki as well as Gari and Shito (local Ghanaian meal). It was quite unfortunate we could not make snowman because the snowfall was not so heavy. I enjoyed every bit of time we spent together.



In totality, my trip and stay in Japan was 素晴らしい (awesome) and remains an unforgettable experience (intellectual and fun) thanks to my supervisors (Shoyama-sensei, Uto-sensei, Morinaga-sensei) and my wonderful friends. I am very grateful to all who made this training programme possible; JST, JICA, Mr. Okaya, Dr. Suzuki and Mr. Kashihara who assisted me in my preparation towards the trip. I look forward to another exciting opportunity. Thank you

Arigato (ありがとう)



from ZAK

**Isaac Tuffour**  
**Clinical Pathology**  
**NMIMR**