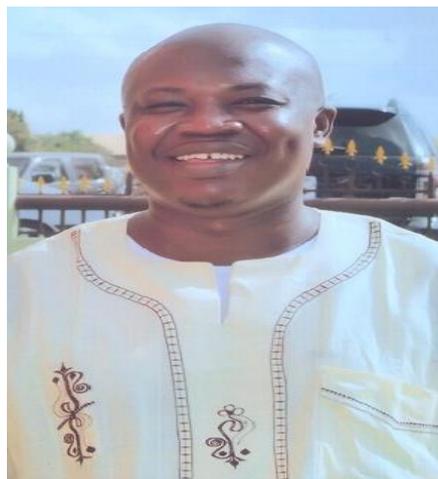


## INTERVIEW WITH DR. KWAKU KYEREMEH

Last week, the University of Ghana announced the discovery of Legonmycins by Dr. Kwaku Kyeremeh, a lecturer at the University of Ghana's Department of Chemistry in collaboration with other researchers from the University of Aberdeen and Wuhan University in China.

The following is a short interview the Director of Public Affairs had with him.



Dr. Kwaku Kyeremeh\*



**Public Affairs:** You have been in the community, national and international news recently with respect to a scientific discovery. Can you tell us what led you to this discovery?



**Dr. Kwaku Kyeremeh:** On the 10<sup>th</sup> of September 2010, together with Professor Marcel Jaspars of the Marine Biodiscovery Centre, Department of Chemistry, University of Aberdeen, we won a Royal Society-Leverhulme Trust Africa Award. Our research was to investigate various Ghanaian marine and terrestrial natural sources for possible secondary metabolites that possessed useful biological activities for diseases that were endemic in Ghana and the rest of Africa.



**Public Affairs:** Was this research supported by any institution?



**Dr. Kwaku Kyeremeh:** The research was sponsored by the Leverhulme Trust and the Royal Society's Africa Award. The emphasis of the RS-Leverhulme Trust Award was to build capacity in the Department of Chemistry, University of Ghana in this research area and show the Ghanaian Government that high profile scientific research is possible if the right financial resources are made available to faculty of the University.



**Public Affairs:** So how did you proceed with the research?

My team members and I sampled and screened invertebrates, marine and terrestrial sediments from the Greater Accra, Western, Eastern and Northern Regions. We also screened various sediments collected from the Western Regional Wetlands specifically the River Butre and Amanzuri. We isolated, characterized and determined the biological activity profiles of many metabolites notable among them were *Butremycin*, *Butrepyrazinone*, *Butrecitrinadin*, *Quinolactacin A1/A2*, *Dakaramine*, *(2R3S4S)-5-fluoro-2,3,4-trihydroxypentanoic acid*, *Fluoroacetate*, *Fluoroacetaldehyde*, *4-Fluorothreonine*, *Legonaridin A*, *Legonindolizidine A and B*, *Legonmycin A and B* etc.



**Public Affairs:** Were other discoveries made?



**Dr. Kwaku Kyeremeh:** Our group was also responsible, (in collaboration with School of Chemistry and Biomedical Sciences Research Centre, University of St Andrews), for the discovery of a range of novel fluorinating enzymes following Professor David O'Hagan's discovery of the first ever fluorinating enzymes thirteen years ago. All these were achieved as a result of our success in isolating a whole range of very talented microorganisms from both marine and terrestrial sources notable among which are *Streptomyces* sp. MA37, *Streptomyces* sp. CT34, *Streptomyces* sp. CT10, *Micromonospora carbonacea*, *Micromonospora* sp. K310, *Verrucosispora* sp. K51G and many more.

By this, we have been able to show that, Ghana's true biodiversity is centred on our micro- rather than macroorganisms.



**Public Affairs:** What next for your team?



**Dr. Kwaku Kyeremeh:** As a team, we are eager to continue our research on Ghanaian microorganisms as source of future drug prototypes for diseases endemic to Ghana and the rest of Africa as a whole. We are currently exploring other sources of funding that could help us make the necessary progress and impact in the next 4-5 years.



**Public Affairs:** What do you desire most to move this discovery further?



**Dr. Kwaku Kyeremeh:** Personally, I wish that a Centre of Excellence for microbial natural products would be established here at the University of Ghana in the near future.



**Public Affairs:** What prospects do you see for University of Ghana as a research-intensive University?



**Dr. Kwaku Kyeremeh:** I believe the University of Ghana could make a lot of impact in research and rise up the ranking ladder if the University, under the College of Basic and Applied Sciences (CBAS) could get the study of the sciences right. You see, the beauty of the sciences is a good enough attraction to get donors and sponsors to take interest in the University. Fortunately for us, the University is already following this path with the acquisition of state-of-the-art science equipment and the appointment of young and vibrant researchers in the various departments of Science.



**Public Affairs:** As we end this short interview, we applaud you for enhancing the image of the University by this accomplishment and we wish you the best in your future endeavours.



**Dr. Kwaku Kyeremeh:** Thank you.

\*Dr. Kwaku Kyeremeh is a Lecturer at the University of Ghana, Department of Chemistry.