

Dr. Betty Bando Oppong

Written by Evans

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DEGREES

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BSc, MPhil (Parasitology) (University of Ghana, Legon)

PhD (Immunology) (Kwame Nkrumah University of Science and Technology)

Awards and Recognitions

2013 – 2015: DANIDA FELLOW (BSU scholarship, University of Copenhagen)

Active Affiliations

Member

: Immunology Society of Ghana {ISG}, Convention for Biomedical Research, Ghana

Profile of Dr. Betty Bando oppong

Research Scientist, Biomedical and Public Health Research Unit, CSIR-Water Research Institute

Dr. Betty Bando Oppong is a Research Scientist at the Biomedical and Public Health Research Unit of the Council for Scientific and Industrial Research- Water Research Institute (CSIR-WRI). She obtained her Bachelor's degree in Zoology at the University of Ghana in 2005, Master's degree in Parasitology in 2012, also at the University of Ghana. She obtained a PhD in Immunology at the Kwame Nkrumah University of Science and Technology, Kumasi in 2022.

Betty has experience in the immunology of infectious diseases having done her Masters project on the cytokines that play a role in Giardia infections and her PhD research focused on the proteins mediating rosette formation in children with severe malaria. Earlier in her career, Betty did some work on the risk factors associated with Soil Transmitted Helminthes (STH) in a Secondary school in Ada. Betty has a keen interest in infectious disease research and is interested in exploring the use immunodiagnostic techniques and tools for the detection of infectious pathogens and diagnosis of infectious diseases.

Betty has various expertise in immunology, molecular biology, fields work, data analysis and relevant soft skills such as team work, leadership and innovation. Betty won a DANIDA fellowship in 2013 and had training in flow cytometry and parasite cultures at the Centre for Medical parasitology at the University of Copenhagen and years of field work and training in malaria, noroviruses, STH at the Noguchi Memorial Institute of Medical research where she was formerly employed.

Betty is a member of the Immunology Society of Ghana {ISG}, Convention for Biomedical Research, Ghana {CoBReG}, Organization for Women in Science for the Developing World {OWSD}. She is also a founding member and secretary of Women in Biomedicine, a mentorship platform for women pursuing STEM careers especially those in the Biomedical sciences. Betty has a few publications in peer reviewed journals.

Research Interests

Reducing the mortality of malaria in children through improved therapeutic interventions.
Improving detection of NTDs using immunodiagnostic tools.

Current Research

The current research focusses on the identification of Onchocerca spp. in a surveillance of endemic foci within the country, a research collaboration with the Ghana Health Service and the Sight savers International. The work encompasses laboratory studies of parasite DNA isolation and confirmation via PCR ELISA technique. This is combined with field collection of the black fly (vector for the Onchocerca spp. This study aims to identify communities where there is active transmission of Onchocerca spp. and develop interventions to break the transmission in a bid to

eliminate the disease in the communities affected. Previous research has been in malaria immunology where proteins mediating rosettes were identified and characterised to understand how these proteins can be used to disrupt rosette formation and reduce severe malaria in children.

My research interest is in the **immunology of infectious diseases**. Current research projects in my laboratory include:

Current Projects

- Surveillance and detection of *Onchocerciasis* spp. in endemic foci within Ghana. (GHS-NTDP-ONHO project)
- Development of immunodiagnostic tool for the detection of selected NTDs
- Covid immunology study

Publications

- **Bando B**, Kyei-Baafour E, Aculley B, van der Puije W, Tornyigah B, Akyea-Mensah K, Hviid L, Ngala RA, Frempong MT, Ofori MF. Influence of ?₂-Macroglobulin, Anti-Parasite IgM and ABO Blood Group on Rosetting in *Plasmodium falciparum* Clinical Isolates and Their Associations with Disease Severity in a Ghanaian Population. J Blood Med. 2022 Mar 18;13: 151-164. doi: 10.2147/JBM.S329177. PMID: 35330697; PMCID: PMC8939864. Soil

- Stevenson L, Laursen E, Cowan GJ, **Bando B**, Barfod L, Cavanagh DR, Andersen GR, Hviid L ?2-Macroglobulin Can Crosslink Multiple *Plasmodium falciparum* Erythrocyte Membrane Protein 1 (PfEMP1) Molecules and May Facilitate Adhesion of Parasitized Erythrocytes. Plos Pathogens. 2015 Jul;11(7): e1005022. DOI: 10.1371/journal.ppat.1005022.

- Anim-Baidoo, I., Narh, C. A., Oddei, D., Brown, C. A., Enweronu-Laryea, C., **Bando B**, Sampene Donkor, E., Armah, G., Adjei, A. A., Adjei, D. N., Ayeh-Kumi, P. F., & Gyan, B. A. (2016). Giardia lamblia infections in children in Ghana. The Pan African medical journal, 24, 217.

<https://doi.org/10.11604/pamj.2016.24.217.8012>

- Transmitted Helminthes: Prevalence of soil transmitted helminthes among students in Ada secondary school and the associated risk factors of infection.
- Intestinal protozoan parasite (Giardia lamblia: prevalence, immunological markers, risk factors in a hospital in Accra)