Statement of Purpose

One of the fascinating things about biology is its ability to find explanations to how nature works and how this can be manipulated to better the living conditions of humans. As a child I was fascinated about the cell and the fact that it was termed a ñmonomerò of ñmeò. From ñMR NIGER Dò (a pneumonic for characteristics of a cell) to the molecular underpinnings of these characters, I cannot but want to contribute to the understanding of human Physiology which will be important in understanding the pathology.

With this nascent interest in mind, I enrolled for Bachelors in Physiology and afterwards a Masters in Physiology at the University of Ilorin. My research projects were on Gastric ulcer (Bachelors) and neuropathic pain (Masters). These two pathologies have inflammatory underpinnings among other factors.

My strong enthusiasm in research and learning has earned me travel grants to attend 3 International Brain Research Organization (IBRO) schools and a faculty position at the University of Ilorin, Nigeria, where I am currently teaching Physiology to undergraduate students of Biomedical sciences, Medicine and Nursing.

I have so far worked in collaboration with other researchers in areas ranging from cardiometabolic syndrome to neurodegerative diseases. During this time, I have acquired skills in orogastric intubation, animal handling and dissection, spectrophotometry, neurobehaviour and histology. Outcomes of some of these works have been published while others are under review.

My research interest in recent years has been to understand the mechanism underlying cognitive dysfunction in chronic disorders like neuropathic pain and diabetes. I have recently worked in collaboration with other scientists on the comparative curative effects of anti-depressants and anti-convulsants drugs on neuropathic pain-induced memory impairment. Presently, we are studying the mechanism(s) involved by investigating the role of pumps and oxidative stress. We are also investigating the long term effect of metformin on cognitive dysfunction in diabetic animals with interest in the contribution of the AMPK signaling pathway.

Studies on the long term use of metformin on cognitive function in type 2 diabetic animals is sparse but available human studies on this subject have revealed that long term use of metformin could cause cognitive impairment. However, the mechanism(s) is/are not fully understood. Our aim is to take a holistic approach towards understanding the underpinning mechanism(s) linking long term use of metformin with cognitive impairment and possible prophylactic measure.

Mentioned above are the researches I am involved in at the moment but I strongly believe that PhD training at the IGC will mould me for the future. With the information I have equipped myself with at the moment regarding the IGC research environment, I kind of have a ñmotion pictureò in my mind. The multi-disciplinary basic research in biology, the opportunity of being taught by leading researchers (both at IGC and invited speakers) in different fields of biology, access to state of the art facilities, and the opportunity of freely interacting with PIs and students of the IGC will definitely better my perspective of how science is done and needs to be done.

This will broaden my horizon and help in the incorporation of multidisciplinary approaches to answering questions in biology.

I strongly believe that training at IGC is in consonance with my long term scientific career goals and I believe strongly also that my quest and yearning for better science makes me an ideal candidate for the PhD in IBB programme.