Determining the basis of cardiac diseases

Background
The leading cause of sudden cardiac death in individuals less than 40 years of age is hypertrophic cardiomyopathy (HCM). Famous cases include Fabrice Muamba who collapsed on the football pitch but was resuscitated, and Mark Vivian Foe, who sadly passed away as a result of this disease. There are over 1400 mutations identified for HCM, but we don’t understand how this results in disease/sudden cardiac failure.

The project
You will aim to characterize how mutations lead to HCM using cardiac samples from humans/animal models together with advanced imaging technologies.

At the end of this project, you should be able to: (1) handle/process cardiac tissue; (2) master state-of-the-art molecular/cell biology techniques; (3) apply unique microscopic techniques; (4) generate and analyze large sets of data; and (5) synthesize the findings by writing a publishable scientific paper. These will help you to become an independent scientist and critical thinker.

The candidate
The project is suitable for a motivated and engaged student (bachelor or master student) within the field of medicine, human physiology, human biology, molecular biomedicine or equivalent.

Place of project and contact information
You will join a dynamic and stimulating group and become a member of the Xlab at the Department of Biomedical Sciences located on the 2nd floor of the Maersk Tower. For more information, please contact Associate Professor Julien Ochala.