# **Cardiovascular Medicine iBSc**

**School of Cardiovascular and Metabolic Medicine & Sciences** Faculty of Life Sciences & Medicine King's College LONDON

Cardiovascular disease is the leading cause of death and the single biggest condition where lives can be saved by the NHS over the next 10 years. Our intercalated BSc offers the opportunity to develop an in-depth understanding of cardiovascular medicine and research in a British Heart Foundation Centre of Excellence. This multidisciplinary course has a strong translational emphasis and consists of five modules:

#### I Cardiovascular Science

Providing knowledge of normal cardiac and vascular function and a firm grounding in basic cardiovascular research principles

#### II Heart Muscle & Vascular Disorders

Pathophysiology, experimental interrogation, and clinical management of diseases of the heart muscle, coronary circulation, and peripheral vasculature.

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## III Cardiac Electrics & Imaging

Pathogenesis, experimental interrogation and management of cardiac arrhythmias, and the theory and practice of cardiac imaging.

### **IV** Translational Cardiovascular Medicine

Providing clinical context to cardiovascular research advances and an opportunity to practice echocardiography





### **V Research Project**

Each student is allocated a bench-based or clinically-relevant project of their own interest that is predicated on active research in the School. Recent projects include:

- Identification of a new mechanical force-sensitive molecule in cardiomyocytes
- Monitoring immune cell trafficking in the infarcted myocardium.
  Impact of hybrid closed loop insulin therapy in patients with suboptimally controlled Type 1 diabetes

# **Key Benefits**

- **One-year programme leading to an intercalated BSc.**
- We offer clinically informed teaching taught by practicing clinicians from UK's leading teaching hospitals

- Unravelling the dark proteome of atherosclerotic plaques
- Autonomic regulation of arterial stiffness in hypertension
- The Effect of lower-limb venous occlusion (LVO) on left ventricular function.
- Blood Vessel Organoids as a model of Diabetic Vascular Dysfunction
- Serum metabolomics as a biomarker tool in cardiac disease
- Molecular mechanisms of cardiomyocyte dedifferentiation and proliferation
- Long term outcomes of hybrid revascularisation for multi-level peripheral arterial disease
- Development of a new cardiac organoid model

- We have a global reputation for cardiovascular medicine and research.
- We are one of only six British Heart Foundation (BHF) Centres of Excellence in the UK.
- King's is the largest-funded centre of excellence for cardiovascular research in the UK.

For further information: https://www.kcl.ac.uk/study/undergraduate/courses/cardiovascular-medicine-ibsc Dr. Darlington Obinnaya Okonko, Programme Lead: obi.okonko@kcl.ac.uk