Cardiovascular and Respiratory Sciences

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Research in Cardiovascular and respiratory sciences is grouped under **Clinical and Integrated Cardiovascular Sciences (CICS) (/research/activity/mds/domains/cardio-resp-neuro/clinical-integrated-cardiovascular-science/index.aspx)**, **Clinical Respiratory Science (/research/activity/mds/domains/cardio-resp-neuro/clinical-respiratory-science/index.aspx)** and **Vascular Inflammation, Thrombosis and Angiogenesis (http://www.birmingham.ac.uk/research/activity/mds/domains/cardio-resp-neuro/vascular-inflammation/index.aspx)**.

Encompassing disciplines including Cardiology, Cardiothoracic Surgery and Cardiovascular Sciences, as well as Respiratory Medicine, this Section focuses research on myocardial diseases, vascular biology, and lung injury and immunobiology. In myocardial diseases, key areas of study are the pathophysiology of heart failure, novel techniques for cardio-protection during surgery and following ischaemic reperfusion injury, the role of thrombosis and haemostasis in atrial fibrillation, new approaches to understanding and management of life-threatening cardiac arrhythmias, and the link between chronic kidney and cardiovascular diseases. Vascular research centres on vascular control of blood flow, and vascular inflammation, thrombosis and angiogenesis. Studies of signalling by receptors in platelets are allied with analysis of the roles of haemostatic, thrombotic and inflammatory processes in vascular diseases. In the field of respiratory science, research centres on inflammatory mechanisms underlying lung injury and fibrosis in disorders including chronic obstructive pulmonary disease, vasculitis and interstitial lung disease. With 70 staff (both clinical and basic scientists) and live funding of £11 million, translational, therapeutic and basic scientific studies in all of the above areas are funded by the British Heart Foundation, Wellcome Trust, MRC, BBSRC, NIHR and the pharmaceutical industry.

Our excellence in research informs the development and delivery of our research and taught programmes including Medicine (**MBChB (http://www.birmingham.ac.uk/students/courses/undergraduate/med/medicine.aspx)**), Medical Science (**BMedSc (http://www.birmingham.ac.uk/students/courses/undergraduate/med/medical-sci.aspx)**), Postgraduate doctoral research programmes (**PgR (http://www.birmingham.ac.uk/students/courses/postgraduate/research/listing.aspx)**), Postgraduate courses (**PgT (http://www.birmingham.ac.uk/students/courses/postgraduate/taught/listing.aspx)**), and Postgraduate continuing professional development courses (**CPD (http://www.birmingham.ac.uk/postgraduate/courses/cpd/mdslisting.aspx)**).

A range of translational, therapeutic and basic scientific studies are funded by the **British Heart Foundation (http://www.bhf.org.uk/)**, **Wellcome Trust (http://www.wellcome.ac.uk/)**, **MRC (http://www.mrc.ac.uk/)**, **BBSRC (http://www.bbsrc.ac.uk/)**, **NIHR (http://www.nihr.ac.uk/)** and the pharmaceutical industry.

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