British Heart Foundation

Research Grant Awards 2006/2007

BEATING HEART DISEASE TOGETHER

British Heart Foundation

Contents

Introduction

In the year April 2006 to March 2007 the British Heart Foundation (BHF) awarded grants totalling over £50 million for research into the causes, prevention, diagnosis and treatment of diseases of the heart and circulation.

The BHF has three research grant committees which meet four or more times a year. The members of each committee are experts in various aspects of basic and clinical cardiovascular research. Applications are sent to independent reviewers before being assessed by the committee. Judgements are made on factors such as scientific merit, relevance to cardiovascular disease, timeliness, relationship to other work in the field, and value for money. Approximately one third of applications are successful.

A breakdown of expenditure for each of the three research committees is approximately as follows. The Chairs and Programme Grants Committee awarded £15 million, £6.7 million of which is the annual cost of maintaining BHF chairholders' core funding. There were 29 chairholders (also referred to as BHF Professors) in post during the year and they are site-visited every five years to assess past and future research performance and plans. The visiting team includes internationally renowned scientists. With its revamped schemes, the Fellowships Committee awarded 87 applications for personal awards costing £14 million. The Project Grants Committee awarded 154 applications to the value of £23 million.

BHF collaborates with other grant-giving bodies to ensure maximum gain for cardiovascular research. For instance, it made a contribution of £1.25 million towards the National Prevention Research Initiative, a collaboration with the Medical Research Council (MRC), Cancer Research UK (CRUK) and several other health charities, to support high-quality research into primary prevention of cancer, coronary heart disease and diabetes. It also committed £6 million to a UK-wide competition for clinical research infrastructure facilities announced under the banner of the UK Clinical Research Collaboration (UKCRC) involving contributions from the MRC, Wellcome Trust, CRUK, The Wolfson Foundation and the UK Departments of Health.

BHF, as a member of the consortium of major UK biomedical and health research funders, has also contributed £250,000 to the funding of UK PubMed Central (UKPMC), with the intention of ensuring that complete versions of publications derived from their funded research are available freely. UKPMC was launched on 8 January 2007.

The pages that follow list BHF chairholders in post during the year and new awards made for Fellowships, Programme Grants, Project Grants and other awards.

Full details of all types of awards offered by BHF and the application process appear on the BHF website bhf.org.uk/research.

BHF chairholders

Listed by town

University of Birmingham

The Chair of Cardiovascular Medicine
Held by: **Professor M P Frenneaux** MBBS MD FRACP FACC FRCP FESC

Major interests: Novel medical treatments for heart failure; using pacemakers to ameliorate heart failure and improve cardiac function in hypertrophic cardiomyopathy; links between depression and heart disease.

University of Birmingham

The Chair of Cardiovascular Sciences and Cellular Pharmacology
Held by: **Professor S P Watson** BSc PhD FMedSci

Major interest: The cell and molecular biology of blood platelets in haemostasis and thrombosis.

University of Bristol

The Chair of Cardiac Surgery
Held by: **Professor G D Angelini** MD MCh FRCS

Major interests: Coronary artery bypass surgery, including off-pump techniques and methods to reduce restenosis; improving surgery for heart defects in infants.

University of Bristol

The Chair of Vascular Cell Biology
Held by: **Professor A C Newby** MA PhD

Major interests: The cell and molecular biology of atherosclerosis and restenosis; gene therapy.

University of Cambridge

The Chair of Cardiovascular Sciences
Held by: **Professor M R Bennett** BSc MB ChB MA PhD FRCP FAHA FMedSci

Major interest: The molecular mechanisms controlling smooth muscle cell proliferation, ageing and death in atherosclerosis.

University of Cambridge

The Chair of Cardiac Surgery
Held by: **Professor B R Rosengard** MD FRCS FACS – resigned 3 September 2006

Major interest: The control of chronic rejection in transplanted organs.

University of Cardiff

The Sir Thomas Lewis Chair of Cardiovascular Science
Held by: **Professor A J Williams** BA PhD – from 1 January 2007

Major interest: Molecular biology of calcium flux through the ryanodine receptor in cardiac myocytes and its disturbance in arrhythmia.

University of Edinburgh

The Duke of Edinburgh Chair of Cardiology
Held by: **Professor K A A Fox** BSc MBChB FRCP FESC FMedSci

Major interests: Clinical trials to determine best treatment for patients with acute coronary syndrome; novel non-invasive imaging techniques to detect coronary vascular disease.

University of Glasgow

The Walton Chair of Medical Cardiology
Held by: **Professor S M Cobbe** MA MD FRCP FESC FRSE FMedSci

Major interests: Mechanisms underlying arrhythmia and sudden death; enhancing success rates for resuscitation following cardiac arrest in the community.

University of Glasgow

The Chair of Cardiovascular Medicine
Held by: **Professor A F Dominiczak** OBE MD FRCP FAHA FRSE FMedSci

Major interest: Genetic analysis to understand molecular mechanisms leading to hypertension.

University of Glasgow

The Chair of Cardiac Surgery
Supported by the Isidore and David Walton Charitable Trust
Held by: **Professor D J Wheatley** MD ChM FRCSEd FRCS(Glasg) FRCPEd FMedSci – retired 30 September 2006

Major interest: Design and development of novel replacement heart valves.

University of Leeds

The Chair of Cardiology
Held by: **Professor S G Ball** MA MB BChir PhD FRCP

Major interests: Genetics of coronary heart disease; cardiac MRI.

University of Leicester

The Chair of Cardiology
Held by: **Professor N J Samani** BSc MD FRCP FACC FMedSci

Major interests: Genetics of hypertension and coronary heart disease; cell ageing mechanisms and premature cardiovascular disease.

University of London
Imperial College (Hammersmith)

The Sir John McMichael Chair of Cardiovascular Medicine
Held by: **Professor D O Haskard** DM FRCP FMedSci

Major interest: Cellular and molecular control of inflammatory and immune processes in atherosclerosis.

University of London
Imperial College (Hammersmith)

The Chair of Cardiothoracic Surgery
Held by: **Professor K M Taylor** MD FRCS FRCSE FESC FETCS FSA

Major interests: Improving cardiopulmonary bypass techniques; maintaining national registries for audit of heart surgery outcomes.

University of London
Imperial College (NHLI)

The Simon Marks Chair of Cardiology
Held by: **Professor P A Poole-Wilson** MD FRCP FACC FESC FMedSci

Major interest: Clinical trials of novel medical treatments for heart failure.

University of London
Imperial College (NHLI)

The Chair of Cardiothoracic Surgery
Held by: **Professor Sir Magdi Yacoub** FRCS FMedSci FRS – retired 30 September 2006

Major interests: Optimising heart transplant techniques; mechanisms of chronic graft rejection; left ventricular assist devices.

University of London
King's College London

The Chair of Cardiology
Held by: **Professor A M Shah** MD FRCP FMedSci

Major interests: The cell and molecular biology of production of reactive oxygen species (by NADPH oxidase) in the cardiovascular system and their roles in atherosclerosis, cardiac hypertrophy and heart failure.

University of London
King's College London

The John Parker Chair of Cardiovascular Sciences
Held by: **Professor Q Xu** MD PhD

Major interest: The cell and molecular biology of stem cells and their importance in modulating atherosclerosis and restenosis.

University of London
St George's

The Prudential Chair of Clinical Cardiology
Held by: **Professor A J Camm** QHP MD BSc FRCP FESC FACC FAHA FCGC C.St.J

Major interest: Mechanisms and treatment of atrial fibrillation.

University of London
University College London

The Chair of Cardiovascular Genetics
Held by: **Professor S E Humphries** BSc PhD MRCP(Hon) FRCPath

Major interests: Genetics of hyperlipidaemias; interactions between genes and environmental factors in the development of cardiovascular disease.

University of London
University College London

The Chair of Cardiovascular Science
Held by: **Professor J F Martin** MBChB MD FRCP FESC FMedSci

Major interests: Gene therapy to control stenosis in grafted blood vessels; stem cell therapy for patients after myocardial infarction.

University of London
University College London

The Chair of Psychology
Held by: **Professor A P A Steptoe** MA DPhil DSc FBPsS AcSS

Major interest: Psychological stress and cardiovascular disease.

University of London
University College London
(Institute of Child Health)

The Joseph Levy Chair of Paediatric Cardiac Morphology
Held by: **Professor R H Anderson** BSc MD FRCPath

Major interest: The anatomy of the developing heart in health and congenital heart disease.

University of London
University College London
(Institute of Child Health)

The Vandervell Chair of Congenital Heart Disease
Held by: **Professor J E Deanfield** MBBChir FRCP FMedSci

Major interest: Evaluating the risk factors for atherosclerosis and quantifying the progression of vascular disease in children and young adults.

University of Manchester

The Chair of Cardiac Physiology
Held by: **Professor D A Eisner** MA DPhil FMedSci

Major interest: Cell and molecular physiology of the role of calcium in control of heart rhythm.

University of Oxford

The Chair of Medicine and Epidemiology
Held by: **Professor R E Collins** FRCP FMedSci

Major interests: Meta-analysis and large-scale trials in cardiovascular disease; large-scale epidemiological studies of risk factors and biomarkers.

University of Oxford

The Field Marshal Earl Alexander Chair of Cardiovascular Medicine
Held by: **Professor H C Watkins** MD PhD FRCP FMedSci

Major interests: Genetics and underlying molecular mechanisms in hypertrophic cardiomyopathy; genetics of coronary artery disease.

University of Southampton

The Chair of Cardiovascular Science
Held by: **Professor M A Hanson** MA DPhil CertEd FRCOG

Major interest: Molecular mechanisms for developmental and neonatal origins of adult cardiovascular disease.

Awards made during the year 1 April 2006 – 31 March 2007

Fellowships

During the year the British Heart Foundation modernised its Fellowship schemes. The awards under the old and new schemes are listed separately.

Fellowships awarded under the old scheme

Senior Research Fellowship

FS/06/061	**Prof B Casadei** MD DPhil FRCP FESC	University of Oxford	RENEWAL: Role of myocardial reactive oxygen species in the onset and maintenance of atrial fibrillation. *5 years*	£614,483

Basic Science Fellowships

BS/06/005	**Dr D O Bates** BSc PhD	University of Bristol	RENEWAL: Functional vascularisation by growth factor administration. *5 years*	£285,081
BS/06/002	**Dr S J Mundell** BSc PhD	University of Bristol	Role of GPCR regulation in platelet function. *5 years*	£318,263
BS/06/004	**Dr C S Redwood** BSc PhD	University of Oxford	RENEWAL: Analyses of cardiac contractile protein structure and function guided by the location and effect of known cardiomyopathy mutations. *3 years*	£194,727
BS/06/001	**Dr J E Schneider** PhD	University of Oxford	Development and application of state-of-the-art cardiac MR methods for phenotyping rodent models of cardiovascular disease. *5 years*	£490,213
BS/06/003	**Dr A J Workman** BSc PhD	University of Glasgow	RENEWAL: Atrial myocardial adaptation to prolonged beta-adrenoceptor antagonism in normal and failing hearts. *5 years*	£311,581

Clinical Science Fellowships

FS/06/023	**Dr D J Hausenloy** BSc MBChB PhD	University College London	The interplay between survival kinases and the mitochondrial permeability transition pore: its role in ischaemic preconditioning and postconditioning. *4 years*	£350,478
FS/06/024	**Dr P Leeson** PhD MRCP	University of Oxford	Endothelial phenotype determined by genetic variation and environment in early life: impact on cardiovascular disease development in adulthood. *4 years*	£593,320

Intermediate Research Fellowships

FS/06/057	**Dr N Balthasar** PhD	University of Bristol	Identifying key neuronal pathways mediating melanocortin's cardiovascular effects. *3 years*	£163,229
FS/06/026	**Dr J E Clark** BSc PhD	King's College London	Carbon monoxide-mediated protection: unravelling the role of p38-mitogen-activated protein kinase. *3 years*	£159,453
FS/06/027	**Dr M R Fowler** PhD	University of Glasgow	The effect of Ca^{2+} microdomains on Ca^{2+} -dependent processes in cardiac ventricular myocytes. *3 years*	£141,924
FS/06/056	**Dr S Muzaffar** BSc PhD	University of Bristol	The interactive role of NADPH oxidase, superoxide and phosphodiesterases in mediating the replication and migration of vascular cells. *3 years*	£118,279
FS/06/025	**Dr K K Ray** MRCP	University of Cambridge	Large-scale studies of metabolic risk factors in coronary heart disease. *3 years*	£297,109
FS/06/055	**Dr S T Yao** BSc PhD	University of Bristol	Neural changes contributing to autonomic dysfunction following chronic heart failure. *3 years*	£135,016

Junior Research Fellowships

FS/06/028	**Dr T Dutt** BSc MBChB MRCP	University of Liverpool	The regulation of pro-coagulant and pro-inflammatory properties of monocytes by microparticle-associated endothelial protein C receptor. *2 years*	£103,270
FS/06/031	**Dr R I Good** BA MA MBBS MRCP	University of Glasgow	Does variation in response to oral antiplatelet therapy influence outcome in patients undergoing PCI? *2 years*	£104,410
FS/06/030	**Dr N Lewis** MBChB MRCP	University of Leeds	A study of integrative cardiovascular pathophysiology of pregnancy: effects of pregnancy and simulated pregnancy on cardiac and physical reserve capacity in healthy subjects and cardiac patients. *2 years*	£98,563
FS/06/029	**Dr A Y S Noman** BMSc MB MRCP	University of Dundee	Do xanthine oxidase inhibitors have clinically useful anti-ischaemic effects in angina pectoris? *2 years*	£99,222
FS/06/032	**Mr A R A Thompson** BMedSci MB BS	University College London	Understanding the systemic features of abdominal aortic aneurysm patients on a molecular level. *2 years*	£109,893

Clinical PhD Studentships

FS/06/059	**Mr S Chaubey** MBChB MRCS	King's College London	Mechanisms of Nox2 NADPH oxidase-dependent interstitial fibrosis in the hypertensive heart. *3 years*	£186,340
FS/06/036	**Dr R M Cubbon** MBChB MRCP	University of Leeds	Do young Asian men have impaired endothelial function secondary to reduced endothelial progenitor cell mobilisation in response to exercise? *3 years*	£140,274
FS/06/034	**Dr M Glover** MA BM BChir	University of Cambridge	Investigation of WNK4 function in mammalian cells. *3 years*	£145,720
FS/06/073	**Dr M Junemann-Ramirez** MSc MRCS	University College London	Enhanced stem cell delivery for endothelial regeneration in a rat carotid artery injury model. *3 years*	£186,224
FS/06/074	**Dr T V Liew** MBBCh MRCP	University of Cambridge	Role of ataxia telangiectasia mutated (ATM) in atherosclerosis. *3 years*	£156,621
FS/06/058	**Mr G Morris** BA MA BMBCh MRCP	University of Manchester	Gene expression in the pacemaker of the heart, the sinoatrial node. *3 years*	£153,543
FS/06/037	**Dr R C Myles** MA MBBS MRCP	University of Glasgow	The role of repolarisation alternans in ventricular arrhythmia in a rabbit model of heart failure. *3 years*	£155,751
FS/06/035	**Dr M Okorie** MBBS MRCP	University College London	Mechanisms of post-conditioning in humans. *3 years*	£168,129
FS/06/033	**Dr P Saravanan** MBBS MD MRCP	University of Manchester	How does fish oil supplementation protect against atrial fibrillation following coronary artery bypass surgery? A cellular study. *3 years*	£197,769

Travelling Fellowship

FS/06/054	**Dr E Aasum** PhD	From: University of Tromsø, Norway To: University of Oxford	The isolated, perfused working mouse heart. *6 months*	£9,350

Fellowships awarded under the new scheme

Non-clinical

Intermediate Basic Science Research Fellowships

FS/06/077	**Dr M I Harhun** MSc PhD	St George's, London	Investigation of functional properties of interstitial cells of cerebral arteries. *4 years*	£270,015
FS/06/076	**Dr A J McNeish** BSc PhD	University of Bath	Investigation of a novel role for thromboxane A_2 in myogenic contraction and EDHF-mediated dilatation in cerebral and coronary resistance arteries. *4 years*	£221,485

4-Year PhD Studentships

FS/06/080	**Dr D R Greaves** BSc PhD	University of Oxford	Third intake 2006/2007 4-year PhD Studentship Scheme: Miss Eleanor Chapman; Miss Rosie Hart; Mr Gregory Lim. *4 years*	£347,277
FS/06/078	**Prof J J Mullins** PhD	University of Edinburgh	Third intake 2006/2007 4-year PhD Studentship Scheme: Ms Madina Kara; Ms Yvonne Nelson; Mr Jonathan Street. *4 years*	£318,699
FS/06/079	**Prof J D Pearson** PhD FMedSci HonFRCP	King's College London	Third intake 2006/2007 4-year PhD Studentship Scheme: Mr Saydul Alam; Mr Colin Evans; Miss Alexandra Rowland. *4 years*	£343,236

PhD Studentships

FS/06/082	**Mr S R Barberini** BSc	University of Cardiff	Deciphering the serum-borne triggers of ryanodine receptor dysfunction in juvenile sudden cardiac death. *3 years*	£87,422
FS/06/081	**Miss A Burnett** BSc	University of Sheffield	Regulation of neutrophil function by angiopoietins. *3 years*	£87,453
FS/07/008	**Miss N M Campbell** BSc	St George's, London	Salt and blood pressure in children: a cross-sectional study and an intervention study. *3 years*	£93,649
FS/06/069	**Mr K Canis** BSc MSc	Imperial College London	A comprehensive glycan map of von Willebrand factor. *3 years*	£91,348
FS/07/003	**Miss J D Clarke** BSc	University of Manchester	Mechanisms underlying altered calcium homeostasis in the atria in heart failure. *1 year 9 months*	£53,891

FS/06/051	**Ms C Denais** BSc MSc	King's College London	Molecular genetic mechanisms in idiopathic pulmonary arterial hypertension. *3 years*	£83,623
FS/06/048	**Mr H Gao** BSc MSc	University of Brunel	Numerical study of stress distribution on vulnerable plaque in carotid arteries on symptomatic and asymptomatic patients. *3 years*	£75,039
FS/06/067	**Miss A Geraghty** BSc	University of Manchester	Functional role and regulation of the Ca^{2+}-sensing and related receptors in blood vessels. *3 years*	£83,984
FS/06/070	**Ms C E Gibbons** BSc MPhil	University of Manchester	The role of adducin in vascular smooth muscle. *3 years*	£86,948
FS/06/052	**Miss C Hamill** BSc	University of Glasgow	In hypertension, do smaller windows in arterial internal elastic lamina lead to fewer routes for myoendothelial junctions and hence less EDHF response? *3 years*	£78,173
FS/06/039	**Mr P Harwood** BSc	University of Bath	An investigation of endothelial cell Ca^{2+} entry mechanisms and endothelium-dependent dilation in resistance arteries. *3 years*	£80,588
FS/06/045	**Ms N Hausman** BSc	University of Manchester	Interactions between oestrogen, endothelial nitric oxide and caveolin-1 and effects on resistance artery contractility. *3 years*	£78,153
FS/06/043	**Mr I Holyer** BSc	University of Birmingham	Platelet recruitment in intestinal and hepatic microcirculation following intestinal ischaemia-reperfusion injury: role of platelet surface receptors. *3 years*	£89,438
FS/07/009	**Miss S Lake** BSc	King's College London	The role of Gαi1 in human platelet activation. *3 years*	£96,809
FS/06/066	**Ms A Lazar** MD	University of Strathclyde	The role of calcium/calmodulin dependent protein kinase II in modulation of NF-κB signalling in normal and hypertrophied hearts. *3 years*	£77,887
FS/06/068	**Mr B Maddox** BA	University of Cambridge	Investigation of von Willebrand factor-binding sites in collagen. *3 years*	£91,803
FS/06/065	**Ms N Marshall** BSc	King's College London	Does the TRPV1 receptor play a role in maintaining vasodilator tone? *3 years*	£94,381
FS/06/083	**Mr S Mauro** BSc	University of Bristol	Role of PI3K-γ in reparative angiogenesis and vasculogenesis. *3 years*	£87,422

FS/06/049	**Mr W W A Mitchell** BSc	University of Birmingham	Characterisation of the contribution of specific regions of troponin-I to the modulation of myocardial contractility. *3 years*	£78,639
FS/07/004	**Miss C Pierides** BSc DiplRes	University of Surrey	Characterisation of the effect of immunisation with apoB-100-derived peptides on the proliferation and functional properties of regulatory T cells. *3 years*	£81,587
FS/06/042	**Miss A Rickard** BSc	King's College London	Examination of angiotensin-II-dependent and independent nongenomic actions of aldosterone contributing to lethal outcomes in acute myocardial infarction. *3 years*	£88,459
FS/06/060	**Miss G Riley** BSc	Medical Research Council Centre, Harwell	Functional characterisation and disease evaluation of KYIP1, a novel heart and skeletal muscle cytoskeletal protein. *3 years*	£79,874
FS/06/047	**Miss K Smith** BSc	University of Hull	Impact of erythropoietin treatment on cardiac function in experimental uraemia. *3 years*	£78,456
FS/06/050	**Miss G Soloperto** BEng Diploma	Imperial College London	Identifying the role of biomechanical forces and species concentrations in the development of carotid plaques. *3 years*	£77,088
FS/06/040	**Mr B Taylor** MSci	University of Leicester	The application and development of methods to combine information in epidemiological studies of cardiovascular traits of major public health importance. *3 years*	£60,390
FS/06/044	**Mr C M Williams** BSc	University of Bristol	Role of Rab family small G proteins in regulating platelet responses. *3 years*	£78,734
FS/07/005	Student to be appointed	Imperial College London	Rho family small G proteins in cardiac myocyte hypertrophy and death. *3 years*	£97,751
FS/07/006	Student to be appointed	Imperial College London	Role of PECAM-1 in cytokine- and chemokine-induced leukocyte transmigration and extravascular motility *in vivo*: a comparative study with JAM-A. *3 years*	£99,077
FS/07/007	Student to be appointed	University of Birmingham	The role of RhoJ/TCL in angiogenesis. *3 years*	£88,818
FS/06/038	Student to be appointed	University of Bristol	Nitric oxide modulation of angiogenesis and arteriogenesis. *3 years*	£78,402

FS/06/053	Student to be appointed	University College London	Identification and investigation of variants within the gene encoding angiopoietin-like protein 3 and their effect on risk of atherosclerosis. *3 years*	£83,848
FS/06/041	Student to be appointed	University of Leicester	*In vitro* manipulation of urotensin II receptor expression: implications of density on ligand efficacy. *3 years*	£79,387
FS/06/046	Student to be appointed	University of Newcastle	Establishment and maintenance of cardiomyocyte polarity by the planar cell polarity gene Vangl2. *3 years*	£78,668

Clinical

Senior Clinical Research Fellowship

FS/07/001	**Dr I B Wilkinson** MA DM MRCP	University of Cambridge	Identification of the mechanisms responsible for large artery stiffening in man. *5 years*	£973,519

Intermediate Clinical Research Fellowship

FS/07/010	**Dr J J Boyle** MBChB BSc PhD	Imperial College London	Does CD163 regulate an antioxidant transcriptional program in culprit atherosclerotic lesions? *4 years*	£549,475

Clinical Research Training Fellowships

FS/06/084	**Dr A Abbas** BSc MBChB MRCP	University of Leeds	Exploring the effect of reduced insulin-like growth factor-1 bioactivity on endothelial function: studies in mice with haploin sufficiency of the *igf-1* or *igf-1r* gene. *3 years*	£173,313
FS/06/087	**Dr N M Child** MBBS	University of Newcastle	Wnt-Ca^{2+} signalling in cardiac development and disease. *3 years*	£164,801
FS/06/063	**Dr F C Connell** MBBS MBChB	St George's, London	Systematic investigation of patients with primary lymphoedema. *2 years*	£112,609
FS/07/013	**Mr J R Finch** BSc MBBS MRCS	Imperial College London	NF-κB activity and inhibition in vein graft accelerated intimal hyperplasia. *2 years*	£125,870
FS/06/088	**Dr T E Ingram** MBChB	University of Cardiff	The effects of low dose nitrate supplementation upon normal, hypoxic and ischaemic vessels – an equilibrium shift targeting nitric oxide delivery. *2 years*	£102,102
FS/06/086	**Mr V P Jagadesham** BSc MBChB MRCS	University of Leeds	Molecular basis of NK cell mediated lysis of vascular smooth muscle cells in abdominal aorta aneruysms: a possible therapeutic target. *2 years*	£101,947

FS/06/064	**Dr A G Japp** MBChB	University of Edinburgh	The cardiovascular effects of apelin *in vivo* in man. *2 years*	£112,327
FS/06/089	**Dr P B Lim** MA MRCP	Imperial College London	Characterisation of epicardial vagal ganglionic plexi capable of arrhythmogenesis in the human atrium. *3 years*	£169,164
FS/06/085	**Dr A Rajwani** MBChB MRCP	University of Leeds	Exploring the mechanisms underlying insulin-like growth factor binding protein-1 mediated vascular protection. *3 years*	£145,714
FS/06/062	**Dr A K Reed** MBChB	Imperial College London	Role of prostacyclin IP and PPARβ receptors in pulmonary hypertension. *3 years*	£174,630
FS/06/075	**Dr J P Rocchiccioli** BSc MBChB MRCP	University of Glasgow	Hydralazine in heart failure: a study of the mechanism of action in human blood vessels. *3 years*	£155,751
FS/07/012	**Dr G V Rowlinson** MA MBBS MRCPCH	Imperial College London	Disorders of connexins in congenital heart disease. *3 years*	£210,795
FS/07/002	**Dr R C Shroff** MRCPCH	University College London	An *in vitro* model of intact human arteries to study the mechanisms of vascular calcification in chronic kidney disease: clinical and laboratory correlation. *2 years*	£138,487
FS/07/011	**Dr R Sofat** BSc MBBS MRCP	University College London	Is human complement factor H a shared risk factor for age-related macular degeneration and atherosclerosis? *3 years*	£179,103

MBPhD Studentship

FS/07/014	**Mr A Rossdeutsch** BA	University College London	Investigating the role of thymosin β4 during coronary vessel development and neovascularisation. *2 years 9 months*	£88,022

Marian and Christina Ionescu Fellowships for Cardiac Surgery

FS/06/071	**Mr M N Bittar** MD MRCS FRCS	University of Manchester	LVAD fellowship. *2 years*	£26,152
FS/06/072	**Dr M Husainy** MBBS MRCS	University of Leicester	The role of protein kinases in ischaemic and pharmacological preconditioning in human myocardium: sequence of activation and effect of age. *2 years*	£97,150

Travel Fellowship

FS/06/090	**Prof J Emsley** BSc PhD	From: University of Nottingham To: Monash University, Melbourne	Structural studies of coagulation factor XI and the glycoprotein Ib/factor XI complex. *4 months*	£4,950

Programme Grant renewals

RG/06/005	**Prof M R Boyett** BSc PhD	University of Manchester	Molecular mapping of the pacemaker and conduction system of the heart in health and disease. *5 years*	£1,078,734

Progress report
The heart beat is initiated by an electrical impulse that originates in the pacemaker of the heart, the sinoatrial node. Although the sinoatrial node was discovered 100 years ago, we still do not understand where it is, how it works and, most importantly, why it fails in disease (in which case an artificial pacemaker has to be fitted). Using a multidisciplinary approach, we have 'mapped' the sinoatrial node from the gross (ie, whole heart) to the molecular level. Not only has this revealed that the sinoatrial node is much larger than originally thought, it has also shown that the electrical impulse is generated by a set of ion channel proteins unique to this specialised region of the heart. This sets the scene for developing new therapies – for example, rather than fitting an artificial pacemaker, perhaps we can use gene therapy to repair the diseased sinoatrial node.

RG/06/007	**Prof D A Lane** BA PhD	Imperial College London	Von Willebrand cleaving protease. *5 years*	£647,596

Progress report
Von Willebrand factor (VWF) is a large blood protein that acts as glue, binding platelets to damaged blood vessels, something that is necessary to prevent bleeding. VWF is heterogeneous in size and this is caused by an enzyme, ADAMTS13, which cuts it into fragments. Deficiency of VWF causes bleeding, while deficiency of ADAMTS13 causes a rare type of thrombosis in the small blood vessels (because VWF is then hyperactive). We have found how ADAMTS13 recognises VWF, enabling it to position itself at the cutting site. We have also identified a mechanism for controlling ADAMTS13 activity in blood, in which enzymes generated during blood coagulation cut it and prevent it working. Finally, we have presented the first evidence that variation in ADAMTS13 levels in the population may contribute to the risk of cardiovascular disease, particularly heart attacks.

RG/06/004	**Prof M L Rose** BSc MSc PhD	Imperial College London	Effect of the indirect alloimmune response on microvascular endothelial cells and protection by hsp27. *5 years*	£804,077

Progress report
Cardiac transplantation is an accepted therapeutic option for patients with end-stage heart disease. Improvements in immunosuppression mean that one-year survival results are extremely good. However, long-term graft survival has not benefited to the same extent. The reason for this is occurrence of a graft occlusive disease, whereby the arteries of the new heart become thickened in a matter of years following transplantation. The purpose of this Programme Grant is to understand the role of the immune response to the specialised cells which line the blood vessels (endothelial cells) in the pathology of this complication. Two approaches will be taken: one to define how antibodies (made as part of the immune response) cause blood vessels to thicken; and the second to use a new protein (called hsp27) that may protect the blood vessels from thickening.

RG/06/003	**Prof I C Zachary** BSc PhD	University College London	Mechanisms mediating VEGF regulation of endothelial function in cultured cells and *in vivo*: roles of signalling, gene regulation and neuropilin. *5 years*	£862,745

Progress report
Our work has revealed a new and potentially important role of vascular endothelial growth factor (VEGF) in protecting blood vessels against atherosclerosis, and identified some of the key mechanisms underlying this vascular protective role of VEGF. We are currently investigating whether gene therapy approaches using VEGF are valuable in treating vascular disease.

Programme Grants

RG/06/002	**Prof D A Eisner** MA DPhil FMedSci	University of Manchester	The role of dyssynchronized Ca release in calcium alternans and its relationship to electrical alternans. *5 years*	£586,024
RG/06/006	**Dr D A Giussani** MA PhD	University of Cambridge	Developmental programming of cardiovascular disease by hypoxia and oxidative stress. *5 years*	£1,277,792
RG/07/001	**Prof M J Shattock** BSc PhD	King's College London	Regulation of the cardiac Na/K ATPase in health and disease: role of phospholemman (FXYD1). *5 years*	£1,249,302
RG/06/008	**Prof N B Standen** MA PhD FMedSci	University of Leicester	Regulation of arterial voltage-gated potassium channels by vasoactive agents and glucose. *5 years*	£690,308

Infrastructure Grant

IG/07/001	**Prof G D Angelini** MD MCh FRCS	University of Bristol	Equipment for the Bristol Heart Institute. *6 months*	£150,000

Project Grants

Listed alphabetically by Institute

PG/07/040	**Dr H L Roderick** BSc PhD	Babraham Institute, Cambridge	Investigation into the role of inositol 1, 4, 5-trisphosphate mediated calcium release in controlling cardiac hypertrophy. *3 years*	£167,463
PG/07/039	**Dr A Graham** BSc PhD MA	Glasgow Caledonian University	Mitochondrial cholesterol transport: a key element in regulation of macrophage cholesterol homeostasis and foam cell formation. *3 years*	£176,150
PG/07/020	**Dr P J R Barton** PhD	Imperial College London	Role of the calcineurin splicing variant CnAβ1 in heart failure and recovery. *3 years*	£174,043
PG/06/093	**Dr A Clerk** BSc PhD	Imperial College London	Signalling to transcription and translation in cardiac myocyte growth and death. *2 years*	£49,894
PG/07/018	**Dr A Clerk** BSc PhD	Imperial College London	Kruppel-like factors 2, 4 and 6 in cardiac myocyte hypertrophy. *1 year*	£58,142
PG/06/087	**Prof P Collins** MA MD (Cantab) FRCP FACC	Imperial College London	Cardiac rehabilitation for the treatment of refractory angina. *2 years*	£141,407
PG/06/160	**Dr S A Cook** PhD MRCP	Imperial College London	Characterisation of microRNA in the heart. *3 years*	£152,444
PG/07/008	**Dr M Emerson** BSc PhD	Imperial College London	Endothelial and platelet derived nitric oxide as distinct mediators of platelet function *in vivo*. *2 years*	£97,543
PG/06/134	**Dr P C Evans** MSc PhD	Imperial College London	Shear stress suppresses proinflammatory activation and apoptosis of vascular endothelial cells by modulating NF-κB-MAP kinase crosstalk. *3 years*	£144,996
PG/06/118	**Prof T W Evans** PhD DSc FRCP FMedSci	Imperial College London	Haem release and the development of the sepsis syndromes in surgical patients undergoing cardiopulmonary bypass surgery. *3 years*	£216,571
PG/06/065	**Dr A J T George** PhD MRCP	Imperial College London	Endothelial expression of indoleamine 2, 3-dioxygenase and its role in controlling inflammation. *3 years*	£133,100
PG/07/021	**Prof S E Harding** BSc PhD	Imperial College London	Maturation of humans and mouse embryonic stem cell-derived cardiomyocytes in culture and after implantation into the heart. *2 years*	£119,146

PG/06/145	**Prof A D Hughes** BSc MBBS PhD	Imperial College London	Growth-Related effects in ALSPAC on Cardiac Endpoints (GRACE) study. *3 years*	£163,431
PG/06/111	**Dr M A Laffan** MRCPath	Imperial College London	The role of N-linked glycosylation in von Willebrand factor structure and function. *3 years*	£146,351
PG/07/005	**Prof D A Lane** BA PhD	Imperial College London	Characterisation of the molecular basis of protein S enhancement of tissue factor pathway inhibitor (TFPI) anticoagulant function. *3 years*	£167,330
PG/06/148	**Dr J C Mason** PhD MRCP	Imperial College London	Protein kinase C epsilon – a regulator of cytoprotection against vascular endothelial injury. *3 years*	£158,508
PG/06/054	**Prof J A Mitchell** BSc PhD	Imperial College London	Understanding the relative role of the nuclear receptor PPARβ versus prostacyclin (IP) receptor in the antiplatelet effects of prostacyclin. *2 years*	£104,876
PG/06/152	**Dr M J Morrell** BSc PhD	Imperial College London	Screening for sleep apnoea in chronic heart failure. *2 years 6 months*	£157,422
PG/07/022	**Dr A M Randi** MD PhD	Imperial College London	Role of the transcription factor ERG in inflammation. *3 years*	£204,506
PG/06/157	**Dr C C Shoulders** DPhil	Imperial College London	Cloning the chromosome 8p23-22 cholesterol quantitative trait gene: crucial for ultimate dissection of the cholesterol trait of familial combined hyperlipidaemia. *3 years*	£224,152
PG/07/032	**Dr S J Wort** MA MBBS MRCP PhD	Imperial College London	The regulation of ET-1 production by the TGF-β1/BMP pathway in human pulmonary vascular cells. *3 years*	£155,817
PG/06/102	**Dr L Zhao** PhD	Imperial College London	Pharmacological treatment with tetrahydrobiopterin in pulmonary hypertension. *3 years*	£163,162
PG/07/035	**Dr E O Balogun** BSc PhD	King's College London	Lung protection during deflation-induced injury associated with cardiopulmonary bypass: characterising the role of MAPK pathways. *3 years*	£160,492
PG/06/063	**Dr P M Bennett** BSc PhD	King's College London	3D ultrastructure of the transitional region between myofibril and intercalated disc in normal and DCM heart. *3 years*	£209,421
PG/06/062	**Dr J A Ellis** BSc PhD	King's College London	An investigation into how defects in the protein emerin result in the cardiac dysrhythmias observed in X-linked Emery-Dreifuss muscular dystrophy patients. *3 years*	£149,885

PG/06/068	**Dr A Ferro** MBBS PhD FRCP	King's College London	Mechanisms underlying the dependence on extracellular L-arginine of calcium-independent activation of endothelial nitric oxide synthase. *3 years*	£165,755
PG/06/124	**Dr S Jurcevic** MD PhD	King's College London	Heart transplantation of pre-sensitised recipients: therapeutic control in a challenging setting. *2 years*	£126,291
PG/06/074	**Dr G Lombardi** BSc PhD	King's College London	Pre-clinical study of tolerogenic dendritic cells as cell therapy to induce donor-specific heart transplantation tolerance using murine and human SCID mouse models. *3 years*	£191,236
PG/06/079	**Dr S Sultan** PhD	King's College London	Rapid priming of endothelial cell functional responses by cytokines and growth factors. *3 years*	£168,084
PG/06/081	**Dr P D Taylor** BSc PhD	King's College London	Developmental programming of cardiac dysfunction by maternal overnutrition in pregnancy. *3 years*	£180,588
PG/06/067	**Dr P D Taylor** BSc PhD	King's College London	The role of leptin in hypothalamic programming of offspring appetite and raised blood pressure by maternal obesity. *3 years*	£223,665
PG/06/151	**Prof J P T Ward** BSc PhD	King's College London	Enhanced pulmonary vascular reactivity in compensated hypercapnia: role of bicarbonate transporters and chloride channels. *3 years*	£155,482
PG/06/053	**Prof D F Goldspink** PhD DSc	Liverpool John Moores University	An integrative study of the effects of controlled exercise intensity on overall cardiac function and adaptations at the level of the cardiomyocyte. *3 years*	£202,081
PG/06/100	**Dr T J Mohun** BA PhD	National Institute for Medical Research	Identifying target genes of the cardiac transcription factor Nkx2-5. *3 years*	£174,215
PG/06/153	**Prof M Perretti** MSc PhD	Queen Mary, London	The impact of annexin 1 cleavage on neutrophil behaviour during vascular inflammation. *3 years*	£225,692
PG/06/123	**Prof T D Warner** BSc PhD	Queen Mary, London	Targeting anti-inflammatory cytokine therapy towards stabilising unstable atherosclerotic plaques. *3 years*	£153,461
PG/06/112	**Dr D J Grieve** BSc PhD	Queen's University of Belfast	Role of NADPH oxidase-derived reactive oxygen species in cardiac dysfunction associated with doxorubicin chemotherapy. *3 years*	£170,952

PG/06/072	**Dr G F Baxter** MSc PhD	Royal Veterinary College, London	Role of Rho-dependent kinase in mediating reperfusion injury. *3 years*	£156,609
PG/06/108	**Dr G Manoharan** MBBCh MD	Royal Victoria Hospital, Belfast	Defibrillation of ventricular fibrillation using novel shock waveforms. *2 years*	£86,672
PG/06/131	**Dr S N Bevan** BSc PhD	St George's, London	The role of adipocytokines in cardiovascular disease risk. *2 years*	£125,264
PG/06/057	**Dr I A Greenwood** BSc PhD	St George's, London	Functional impact and molecular identity of KCNQ and ERG channels in the murine vasculature. *3 years*	£173,789
PG/06/094	**Dr Y Jamshidi** BSc PhD	St George's, London	Genetic and environmental contribution to QT interval duration in the normal population: a UK twin candidate gene study. *2 years*	£113,095
PG/06/049	**Prof H S Markus** MRCP MD	St George's, London	Genetic variation in the leukotriene pathway as a risk factor for atherosclerosis. *1 year*	£63,022
PG/06/154	**Prof P H Whincup** MB MSc PhD	St George's, London	Passive smoking, cardiovascular disease and Type 2 diabetes: prospective studies in older men and women. *1 year 3 months*	£145,086
PG/07/033	**Prof P H Whincup** MB MSc PhD	St George's, London	Early markers of vascular disease in British children of South Asian, African-Caribbean and white European origin. *1 year 6 months*	£228,915
PG/07/002	**Prof J E Deanfield** MBBChir FRCP FMedSci	University College London	Genetic and environmental determinants of arterial function in childhood: insight into causal pathways from the Avon Longitudinal Study of Parents and Children (ALSPAC). *3 years*	£240,286
PG/07/001	**Dr I J Mackie** BSc PhD FRCPath	University College London	The modes of inhibition of factor Xa by heparin in plasma: neutralisation by platelet factor 4. *1 year*	£47,921
PG/06/066	**Prof S P Newman** BSc PhD	University College London	Psychological response and impact of an ICD on quality of life in young and older recipients for primary prevention. *3 years*	£113,722
PG/06/113	**Dr P R Riley** BSc PhD	University College London	Investigating the role of Prox1 during vertebrate heart development. *3 years*	£237,329
PG/07/038	**Prof E D Saggerson** BSc PhD	University College London	Adrenergic regulation of AMP-activated protein kinase in the heart. *2 years 6 months*	£235,186

PG/07/027	**Prof P J Scambler** MRCPath	University College London	Role of the CHARGE syndrome gene Chd7 in cardiovascular morphogenesis and its interaction with the DiGeorge syndrome gene Tbx1. *3 years*	£323,610
PG/06/069	**Dr J Wells** MA MPhil PhD	University College London	Validation of bioelectrical impedance analysis across ethnic groups in adolescents. *1 year*	£35,708
PG/07/004	**Dr B J Wojciak-Stothard** MSc PhD	University College London	ADMA/DDAH pathway as a critical regulator of endothelial motility and blood vessel growth. *2 years*	£94,114
PG/06/155	**Dr A E Scott** MBChB	University of Aberdeen	Tissue deformation echocardiography: a tool for risk stratification in hypertrophic cardiomyopathy. *1 year*	£11,050
PG/06/114	**Prof A S Ahmed** BSc PhD	University of Birmingham	Molecular mechanisms of angiopoietin-2-mediated inhibition of atherosclerosis. *3 years*	£176,894
PG/06/077	**Prof A S Ahmed** BSc PhD	University of Birmingham	Differential signalling of the vascular endothelial growth factor receptors in angiogenesis. *2 years*	£119,809
PG/06/061	**Prof R S Bonser** MRCP FRCS	University of Birmingham	The effects of tri-iodothyronine and methylprednisolone on the suitability of donor hearts for transplantation. *1 year 6 months*	£88,619
PG/06/105	**Prof M P Frenneaux** MBBS MD FRACP FACC FRCP FESC	University of Birmingham	Modification of myocardial substrate utilisation as a therapy for heart failure. *2 years*	£234,607
PG/06/104	**Prof M P Frenneaux** MBBS MD FRACP FACC FRCP FESC	University of Birmingham	Mechanisms responsible for cardiac and skeletal muscle energetic impairment in Type 1 diabetes. *2 years 6 months*	£199,887
PG/06/099	**Prof M P Frenneaux** MBBS MD FRACP FACC FRCP FESC	University of Birmingham	Pathophysiology of heart failure with preserved left ventricular ejection fraction. *2 years*	£64,500
PG/06/128	**Prof M P Frenneaux** MBBS MD FRACP FACC FRCP FESC	University of Birmingham	Abnormal cardiac energetics in heart failure with preserved ejection fraction. *2 years*	£137,313
PG/06/088	**Prof G Y H Lip** FRCP DFM MD	University of Birmingham	Biomarkers in the prediction of heart failure and prognosis in South Asian subjects in the community. *2 years*	£216,674
PG/06/121	**Prof J M Marshall** BSc PhD	University of Birmingham	Free radicals in acute and chronic systemic hypoxia. *3 years*	£146,384

PG/06/140	**Prof G B Nash** BSc PhD	University of Birmingham	The effects of shear-conditioning on the ability of endothelial cells to recruit leukocytes: roles of specific endothelial integrin-substrate interactions. *3 years*	£187,565
PG/06/095	**Dr G E Rainger** BSc PhD	University of Birmingham	The role of platelets adherent to endothelial cells in promoting leukocyte recruitment in flow-based models of arterial disease. *2 years*	£87,385
PG/06/106	**Prof J E Sanderson** MA MD FRCP FACC	University of Birmingham	Understanding 'diastolic' heart failure: what is the role of impaired ventricular long axis function and torsion? *3 years*	£256,681
PG/07/034	**Dr Y Senis** PhD	University of Birmingham	Investigating the functional roles of CD148 and PTP-1B in platelets through the use of mouse models. *3 years*	£167,990
PG/07/041	**Prof S P Watson** BSc PhD FMedSci	University of Birmingham	Regulation of migration of megakaryocytes by PECAM-1 and other surface glycoprotein receptors. *3 years*	£172,155
PG/06/129	**Prof S P Watson** BSc PhD FMedSci	University of Birmingham	Investigation of the role of Grb2 and the novel transmembrane adapter G6f in glycoprotein receptor signalling in megakaryocytes. *3 years*	£156,986
PG/07/025	**Dr K M Naseem** BSc PhD	University of Bradford	The role of thrombospondin-1 in regulating platelet sensitivity to nitric oxide. *3 years*	£135,021
PG/06/146	**Dr C Emanueli** PhD	University of Bristol	Role of neurotrophin p75 receptor in the angiogenesis and apoptosis responses to limb ischaemia and cutaneous wounds in diabetic mice. *3 years*	£151,473
PG/06/147	**Prof J C Hancox** BSc PhD	University of Bristol	Comparative electrophysiology and pharmacology of mutant potassium channels in different variants of the short QT syndrome. *2 years*	£83,897
PG/06/139	**Prof J C Hancox** BSc PhD	University of Bristol	Characterising the effects of the short QT syndrome mutation N588K on the HERG cardiac potassium channel isoforms: stoichiometry and rescue. *2 years*	£87,258
PG/07/026	**Prof J C Hancox** BSc PhD	University of Bristol	Investigation of the role of TRPC channel involvement in VEGF-mediated endothelial cell cation entry. *3 years*	£161,096
PG/06/142	**Dr R P Jago** BSc PhD	University of Bristol	Parental and peer determinants of physical activity profiles in 10-11 year old children. *3 years*	£145,451

PG/06/103	**Dr J Y Jeremy** MSc PhD	University of Bristol	Mechanisms underlying the inhibition of superoxide formation by hydrogen sulphide in vascular cells: impact on replication, migration and angiogenesis. *2 years*	£103,478
PG/06/085	**Dr S Kasparov** MD PhD	University of Bristol	Is junctional adhesion molecule-1 expression in the brainstem pro-hypertensive? *3 years*	£158,180
PG/06/096	**Prof P Madeddu** MD	University of Bristol	Resident progenitor cells in adult human arteries and veins: isolation, characterisation and contribution to post-natal vascular regeneration. *3 years*	£156,894
PG/06/086	**Prof A C Newby** MA PhD	University of Bristol	Towards effective inhibition of neointima formation in saphenous vein grafts. *2 years*	£108,485
PG/06/084	**Dr A E Pickering** MB ChB PhD	University of Bristol	Role of preganglionic neurones in controlling the respiratory modulation of sympathetic activity: a possible pathogenic locus in hypertension. *3 years*	£181,590
PG/06/127	**Dr R M A Sitsapesan** MSc PhD	University of Bristol	Investigating the links between ryanodine receptors, FKBP12.6, cADPR and arrhythmias. *3 years*	£124,825
PG/06/120	**Dr A W Khir** BSc MSc PhD	University of Brunel	Mechanics of the intra aortic balloon pump in patients with coronary artery disease: effects of posture and timing. *3 years*	£138,022
PG/06/101	**Prof M R Bennett** BSc MA MB ChB PhD FRCP	University of Cambridge	The regulation of ARC, a myocyte specific anti-apoptotic protein. *3 years*	£191,555
PG/06/149	**Prof M R Bennett** BSc MA MB ChB PhD FRCP	University of Cambridge	Apoptosis of vascular smooth muscle cells in vessel remodelling. *3 years*	£192,705
PG/06/060	**Dr D A Giussani** MA PhD	University of Cambridge	Developmental programming of cardiovascular disease by hypoxia and oxidative stress. *3 years*	£170,497
PG/06/117	**Dr S M Metcalfe** BA MA PhD	University of Cambridge	Regulation of vascular-immune interactions: the roles of axotrophin and LIF. *2 years 6 months*	£141,244
PG/07/014	**Dr K K Ray** MRCP	University of Cambridge	Large-scale studies of metabolic risk factors in coronary heart disease. *3 years*	£89,050
PG/06/090	**Prof K J Broadley** FRPharmS	University of Cardiff	Trace amines in the regulation of vascular tone. *2 years*	£95,863

PG/07/013	**Dr B Latinkic** BSc PhD	University of Cardiff	Molecular dissection of cardiogenic activities of GATA4. *3 years*	£188,093
PG/07/031	**Dr D P Ramji** BSc PhD	University of Cardiff	Interferon-γ signalling and the control of cholesterol accumulation and efflux in macrophages. *3 years*	£153,024
PG/06/132	**Dr A Harper** BSc PhD	University of Dundee	Investigation of the action of simulated ischaemia and reperfusion on the intrinsic cardiac nervous system: developmental perspectives. *2 years*	£101,107
PG/06/082	**Dr A J Jovanovic** MD PhD	University of Dundee	Non-channel aspects of sarcolemmal K_{ATP} channels and cardioprotection. *3 years*	£154,293
PG/06/143	**Prof C C Lang** BSc MD FRCP FACC	University of Dundee	Metformin in insulin-resistant chronic heart failure (MACH 1) trial. *2 years*	£175,467
PG/06/110	**Mr W A Owens** MB BCh BAO MD	University of Durham	The use of telomerase as a functional marker of native cardiac stem cells in health and disease. *3 years*	£132,809
PG/06/136	**Dr A E Munsterberg** PhD	University of East Anglia	Investigation of Wnt pathways controlling migration and specification of cardiac progenitors. *3 years*	£152,292
PG/06/071	**Dr E Poschl** PhD	University of East Anglia	Characterisation of isolated murine pericytes and their role in angiogenesis. *3 years*	£172,821
PG/06/051	**Dr G R Barclay** BSc MSc PhD	University of Edinburgh	Pre-clinical *in vivo* evaluation of potential sources of human endothelial progenitor cells for autograft cellular therapy of ischaemia. *3 years*	£239,930
PG/06/059	**Dr P W F Hadoke** BSc PhD	University of Edinburgh	11β-hydroxysteroid dehydrogenases and vascular remodelling after tissue injury. *2 years*	£145,808
PG/07/017	**Dr N Mills** BSc MBChB	University of Edinburgh	Endothelial progenitor cells in acute vascular injury and repair. *3 years*	£242,685
PG/06/126	**Prof D E Newby** BA BSc PhD BM DM	University of Edinburgh	Cardiovascular risk prediction in patients being evaluated for orthotopic liver transplantation. *2 years*	£133,217
PG/06/092	**Dr R L Riha** BMed Sc FRACP MD FRACPE	University of Edinburgh	Aortic distensibility in the obstructive sleep apnoea syndrome using cardiovascular MRI and pulse wave analysis: effect of CPAP therapy. *2 years*	£162,200
PG/07/015	**Prof A H Baker** BSc PhD	University of Glasgow	Does ACE2 have a protective role in the heart? Systematic analysis of ACE2 in a disease model. *3 years*	£172,483

PG/06/122	**Dr J M R Gill** BSc PhD	University of Glasgow	Effects of moderate exercise on very low density lipoprotein kinetics. *1 year*	£23,538
PG/07/009	**Dr S Kennedy** BSc PhD	University of Glasgow	Cardioprotection and the modulation of vascular tone by anandamide are mediated by sphingosine 1-phosphate. *2 years*	£83,704
PG/07/012	**Dr S Kennedy** BSc PhD	University of Glasgow	Modulation of calcium handling mechanisms in healthy and atherosclerotic vascular smooth muscle. *3 years*	£142,563
PG/07/028	**Prof J G F Cleland** FRCP FESC	University of Hull	A pilot study to examine risk associated with air travel in patients with chronic heart failure. *1 year*	£48,411
PG/07/037	**Prof J G F Cleland** FRCP FESC	University of Hull	Effect of programmed heart rate on cardiac function in patients with a cardiac resynchronisation device. *2 years*	£84,714
PG/06/089	**Dr R A S Ariens** BSc PhD	University of Leeds	Heterogeneity of plasmin inhibitor: origin, distribution, and implications for cross-linking to fibrin and fibrinolytic potential. *3 years*	£137,381
PG/07/011	**Prof D J Beech** BSc PhD	University of Leeds	Functions of STIM and Orai proteins in vascular smooth muscle cells. *3 years*	£192,093
PG/06/130	**Dr S M Harrison** BSc PhD	University of Leeds	Mechanisms contributing to altered Ca^{2+} regulation in experimental sepsis. *3 years*	£140,958
PG/06/076	**Prof N M Hooper** BSc PhD	University of Leeds	Genetic and molecular regulation of angiotensin converting enzyme-2 (ACE2). *2 years*	£90,834
PG/06/107	**Prof M T Kearney** MBChB MRCP DM	University of Leeds	Exploring the role of insulin-like growth factor binding protein-2 in protecting against the development of obesity. *3 years*	£161,237
PG/06/115	**Prof M T Kearney** MBChB MRCP DM	University of Leeds	Endothelial cell insulin resistance and nitric oxide bioavailability. *3 years*	£158,537
PG/06/116	**Dr A Maqbool** PhD	University of Leeds	The relationship between genetic polymorphism of the α2-adrenergic receptors and the central sympathetic nerve activity. *3 years*	£68,686
PG/06/141	**Dr S Ponnambalam** BSc PhD	University of Leeds	The LOX-1 scavenger receptor: a regulator of oxidised LDL uptake and pro-inflammatory responses in macrophages? *3 years*	£151,193

PG/06/156	**Prof D Wray** BA MSc DPhil	University of Leeds	Disease-causing mutations in intracellular domains of the cardiac HERG potassium channel. *1 year 9 months*	£79,634
PG/07/029	**Dr N P J Brindle** BSc PhD	University of Leicester	Receptors mediating angiopoietin-1 regulation of endothelial function. *2 years*	£97,227
PG/06/055	**Dr M El Mezgueldi** BSc PhD	University of Leicester	Effects of dilated and hypertrophic cardiomyopathy mutations in cardiac muscle troponin and tropomyosin on the dynamics of the Ca^{2+}-regulatory mechanism. *3 years*	£123,116
PG/06/056	**Dr J S Mitcheson** BSc PhD	University of Leicester	G-protein coupled receptor modulation of HERG potassium channels in cardiac myocytes. *2 years*	£146,188
PG/06/097	**Dr M Tomaszewski** MD FAHA	University of Leicester	The Y chromosome and cardiovascular disease – an evolving understanding of the molecular mechanisms. *2 years*	£111,653
PG/06/161	**Dr J Willets** BSc PhD	University of Leicester	G protein-coupled receptor kinase (GRK) regulation of angiotensin II type 1 and endothelin A receptor-mediated smooth muscle excitability. *3 years*	£155,679
PG/07/036	**Dr T V Burdyga** BSc PhD DSc	University of Liverpool	Calcium signalling mechanisms and contractility in pre-capillary sphincters: an *in situ* study. *3 years*	£208,988
PG/07/023	**Dr C Dart** BSc PhD	University of Liverpool	The role of Exchange Protein directly Activated by cAMP (EPAC) in the regulation of arterial ATP-sensitive potassium (K_{ATP}) channels. *3 years*	£156,065
PG/06/138	**Dr D A Middleton** BSc DPhil	University of Liverpool	Studies on the structure and function of phospholemman, a regulator of cardiac ion flux. *2 years*	£101,485
PG/06/133	**Dr K M Dibb** BSc PhD	University of Manchester	Defining the role of the inwardly rectifying potassium current I_{K1} in the myocardium: using ageing as a model. *2 years*	£124,901
PG/06/150	**Prof D A Eisner** MA DPhil FMedSci	University of Manchester	Identifying how cellular calcium buffers modulate the systolic calcium transient and response to β-adrenergic stimulation in isolated cardiac myocytes. *3 years*	£175,593
PG/06/144	**Dr K Hentges** BA PhD	University of Manchester	New insights into cardiovascular development: genetic basis of the cardiovascular pathology of the *L11Jus27* mouse mutant. *2 years*	£113,670

PG/06/091	**Dr P A Kingston** BSc MBChB MRCP PhD	University of Manchester	Optimisation of promoters for therapeutic transgene expression in vascular smooth muscle cells. *3 years*	£182,622
PG/07/016	**Prof C N McCollum** MD FRCS	University of Manchester	The role of venous to arterial circulation shunts, cerebral emboli and endothelial dysfunction in migraine. *2 years*	£204,881
PG/06/159	**Dr V Ohanian** BSc PhD	University of Manchester	A study of Hic-5 in vascular smooth muscle signalling. *3 years*	£144,419
PG/07/007	**Dr Z Shui** MD PhD	University of Manchester	Role of cholinergic stimulation and pulmonary vein sleeves in atrial fibrillation. *3 years*	£202,567
PG/07/003	**Dr H M Arthur** BSc PhD	University of Newcastle	Circulating endothelial progenitor cells: investigation of the role of vascular injury and cardiac aging in two patient cohorts. *2 years*	£114,789
PG/07/019	**Dr H M Arthur** BSc PhD	University of Newcastle	Endothelial progenitor cells and angiogenesis: the role of TGFβ *3 years*	£149,964
PG/06/064	**Dr W S V Ho** MA PhD	University of Nottingham	Role of endogenous cannabinoids in the regulation of vascular tone. *2 years*	£31,433
PG/06/119	**Prof S C Langley-Evans** BSc PhD	University of Nottingham	Effects of prenatal undernutrition on the expression of β-adrenergic receptors of the heart and their role in ischaemia-reperfusion injury. *3 years*	£139,523
PG/06/109	**Prof S Bhattacharya** MBBS MD MRCP MSc	University of Oxford	Interactions between maternal diabetes and genetic risk in cardiac malformation. *3 years*	£148,516
PG/06/075	**Prof S Bhattacharya** MBBS MD MRCP MSc	University of Oxford	Control of ventricular topology by Nodal and Cited2. *3 years*	£250,203
PG/06/050	**Dr A R Bushell** BSc DPhil	University of Oxford	Exploitation of bystander regulation to protect heart transplants from rejection: a novel mechanism for the generation of regulatory T cells. *3 years*	£156,726
PG/06/158	**Prof K M Channon** MD MRCP	University of Oxford	Endothelial cell repopulation and in-stent restenosis in novel mouse models. *3 years*	£202,677
PG/06/135	**Dr R P Choudhury** BM BCh MRCP	University of Oxford	Assessment of the role of perivascular adipose tissue in the pathogenesis of atherosclerosis. *3 years*	£159,085

PG/07/030	**Dr R D Evans** MD DPhil BSc MBBS	University of Oxford	Metabolic, functional and molecular changes in heart with ventricular failure and unloading. *3 years*	£177,211
PG/06/078	**Prof D J Paterson** MSc DPhil	University of Oxford	Gene transfer strategy to modulate cardiac sympathetic and β-adrenergic hyperactivity in hypertension. *3 years*	£197,679
PG/07/010	**Prof D P Taggart** PhD MD FRCS	University of Oxford	A high-flow acoustic filtration technique to remove lipid microemboli from blood. *3 years*	£159,701
PG/06/080	**Dr Z L S Brookes** BSc PhD	University of Sheffield	Ang-1 modulates sepsis-induced microvascular responses. *3 years*	£166,253
PG/07/024	**Dr J Chamberlain** BSc PhD	University of Sheffield	Is endothelial progenitor cell therapy for in-stent restenosis good or bad? *2 years*	£136,315
PG/06/052	**Dr T J A Chico** MRCP	University of Sheffield	Using the zebrafish to determine the genetic control of arteriogenesis. *3 years*	£178,973
PG/06/070	**Prof T N Dear** BSc PhD	University of Sheffield	Genetic mapping and phenotypic characterisation of the mouse mutant Phar Lap. *2 years*	£110,119
PG/06/125	**Dr A Lawrie** BSc PhD	University of Sheffield	Expression and function of osteoprotegerin in pulmonary vascular cells. *2 years*	£99,819
PG/06/098	**Dr G C Burdge** BSc PhD	University of Southampton	Effect of nutrition before and after birth on fat metabolism and function in the adult heart. *2 years*	£89,958
PG/07/006	**Dr G F Clough** BSc PhD	University of Southampton	Developmental dietary mismatch and gender in the aetiology of endothelial dysfunction in metabolic syndrome: the mechanistic role of oxidative stress. *2 years*	£93,476
PG/06/083	**Dr P Garside** BSc PhD	University of Strathclyde	Investigating the role of T cells in vascular pathology. *3 years*	£232,467
PG/06/058	**Prof R J Plevin** BSc PhD	University of Strathclyde	The regulation of endothelial cell apoptosis by MAP kinase phosphatase-2 – towards a possible clinical application. *2 years*	£112,128
PG/06/137	**Prof S Pyne** BSc PhD	University of Strathclyde	The role of sphingosine kinase 1 and 2 in pulmonary hypertension. *3 years*	£134,815
PG/06/073	**Dr J Li** PhD MD MBBS	University of Surrey	Cross-talk between adenosine 2A receptor and angiotensin II receptors in coronary microvascular endothelial cells: the role of NADPH oxidase. *3 years*	£143,547

Analysis of funding of Project Grants

2002/2003 – 2006/2007 inclusive

The following table shows the distribution of Project Grants in the various disciplines. The figures are approximate as some grants may involve more than one discipline, in which case the major subject is recorded. The figures in brackets indicate the number of awards made. This table does not include funds used to endow and maintain Chairs, Programme Grants, Fellowships or other types of awards.

Specialty	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	TOTAL (5 years)	% of total funding
Biochemistry	£4,006,692 (34)	£2,866,735 (26)	£3,405,687 (25)	£4,197,106 (30)	£4,773,436 (33)	£19,249,656 (148)	19.17
Clinical cardiology and diagnosis	£377,378 (4)	£348,901 (3)	£884,332 (7)	£2,065,072 (13)	£2,064,942 (13)	£5,740,625 (40)	5.72
Epidemiology	£2,906,241 (27)	£3,139,913 (24)	£2,494,365 (19)	£2,458,646 (18)	£2,140,218 (14)	£13,139,383 (102)	13.10
Genetics	£763,988 (4)	£795,549 (6)	£858,451 (7)	£715,601 (6)	£733,052 (6)	£3,866,641 (29)	3.85
Hypertension	£178,821 (2)	£902,817 (6)	£962,549 (8)	£671,365 (5)	£873,094 (5)	£3,588,646 (26)	3.57
Immunology	£254,268 (2)	£430,191 (3)	£195,869 (2)	£308,719 (2)	£424,261 (3)	£1,613,308 (12)	1.61
Paediatric cardiology	£588,217 (4)	£1,394,661 (10)	£33,923 (1)	£631,633 (4)	£661,121 (4)	£3,309,555 (23)	3.30
Pathology	£1,986,349 (15)	£1,132,606 (11)	£1,509,287 (11)	£690,927 (6)	£2,978,250 (18)	£8,297,419 (61)	8.26
Physiology, electrophysiology and anatomy	£6,345,518 (52)	£5,172,337 (39)	£4,010,487 (30)	£6,470,879 (43)	£5,955,027 (41)	£27,954,248 (205)	27.84
Surgery	£216,763 (2)	£300,690 (2)	£630,941 (5)	£278,671 (4)	£160,492 (1)	£1,587,557 (14)	1.58
Techniques and instrumentation	£123,250 (2)	£436,122 (5)	£149,664 (1)	£63,001 (1)	£282,081 (3)	£1,054,118 (12)	1.05
Thrombosis and atherosclerosis	£1,424,270 (13)	£1,942,121 (17)	£2,119,304 (16)	£1,025,841 (9)	£1,873,334 (13)	£8,384,870 (68)	8.35
Treatment and pharmacology	£1,161,638 (10)	£1,174,191 (8)	(0)	£277,405 (2)	(0)	£2,613,234 (20)	2.60
TOTAL	**£20,333,393 (171)**	**£20,036,834 (160)**	**£17,254,859 (132)**	**£19,854,866 (143)**	**£22,919,308 (154)**	**£100,399,260 (760)**	**100**

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