British Heart Foundation

Research Grant Awards 2020/2021

Cover image: **Dr Ricky Vaja, King's College London**

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Introduction

In the year April 2020 to March 2021 the British Heart Foundation (BHF) awarded grants totalling £51.9 million for research into the causes, prevention, diagnosis and treatment of diseases of the heart and circulation.

The BHF has five research grant committees, each of which meets up to four 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. Shortlisted applicants for Personal Chairs, and for Intermediate and Senior Fellowships are interviewed.

In 2020/2021 the Chairs and Programme Grants Committee awarded £15.8 million to Personal Chairs, Programme Grants, an Infrastructure Grant and other major projects. This included £0.5 million for a new BHF Personal Chair for Professor Deborah Lawlor at the University of Bristol, and £0.7 million towards a BHF-Crick Early Career Group Leader Programme (jointly funded with The Francis Crick Institute).

There were 28 awarded Chairs (also referred to as BHF Professors) on 31 March 2021, with 27 of these in post. (Professor Lawlor had not yet commenced.) Each chairholder is site-visited every five years to assess past research performance, future plans and proposed expenditure. The visiting team includes internationally renowned scientists.

The Clinical Studies Committee supports clinical trials of treatments, diagnostics and other interventions and certain observational studies of specific patient groups. The Committee awarded £2.2 million to three applications.

The Translational Awards Committee awarded £1.3 million* to four applications for the development of cardiovascular research through early pre-clinical milestones, with the aim of advancing the research to be attractive for larger follow-on investment.

The Fellowships Committee awarded £21.1 million to 55 applications, and the Project Grants Committee awarded £11.5 million to 49 applications.

The pages that follow list BHF Chairholders in post during the year and new awards made for Programme Grants, Clinical Studies, Translational Awards, Fellowships, Project Grants and others.

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

Notes

* This figure includes only the expected payments to the next milestone for grants which are conditional upon the successful achievement of project milestones.

The figures above include new awards and supplements made to existing grants.

£1,142,469.82 towards 101 Open Access Block Grants and £6,450 towards four Small Meeting grants have been included in the expenditure above but are not listed in the following pages.

Two awards totalling £818,979.62 included in the figures above were declined.

BHF Chairholders listed by location

University Of Birmingham

The Chair of Cardiovascular Sciences and Cellular Pharmacology

Held by: Professor S P Watson BSc PhD FMedSci

Major interest: Cellular 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 FETCS FMedSci

Major interest: 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 Congenital Heart Surgery

Held by: Professor M Caputo MD MCh FRCS

Major interest: Cardiac surgical research, particularly in congenital heart disease.

University Of Bristol

The Chair of Cardiovascular Science and Clinical Epidemiology

Held by: Professor D A Lawlor CBE MBChB MRCGP FMedSci from 1 May 2021

Major interest: Population health – links between ethnicity, genetics and health during pregnancy on the long-term cardiovascular health of mothers and children.

University Of Cambridge

The Chair of Cardiovascular Sciences

Held by: Professor M R Bennett BSc MBChB PhD MA FRCP FAHA FMedSci

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

University Of Cambridge

The Chair of Epidemiology and Medicine

Held by: Professor J N Danesh MBChB MSc DPhil FMedSci

Major interest: Cardiovascular epidemiology; large-scale studies of genetic and biochemical factors.

University Of Cambridge

The Chair of Cardiovascular Medicine

Held by: Professor Z Mallat MD PhD FMedSci

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

University Of Cambridge

The Chair of Cardiopulmonary Medicine

Held by: Professor N W Morrell MBBS BSc MA MD FRCP ScD FMedSci

Major interest: Molecular and genetic mechanisms of pulmonary arterial hypertension

University of Edinburgh

The Chair of Translational Cardiovascular Sciences

Held by: Professor A H Baker BSc PhD FAHA FESC FMedSci FRSE

Major interest: Gene- and cell-based therapies to combat vascular disease.

University of Edinburgh

The Duke of Edinburgh Chair of Cardiology

Held by: Professor D E Newby BA BSc PhD BM DM DSc FRSE FESC FACC FMedSci

Major interest: Experimental cardiovascular medicine, including studies of air pollution as a risk factor for cardiovascular disease.

University of Glasgow

The Chair of Cardiovascular Medicine

Held by: Professor R M Touyz BSc MBBCh MSc PhD FMedSci

Major interest: Vascular mechanisms of hypertension, particularly the role of reactive oxygen species.

University of Leeds

The Chair of Cardiovascular and Diabetes Research

Held by: Professor M T Kearney MB ChB FRCP DM

Major interest: Mechanisms by which insulin resistance and diabetes exacerbate atherosclerosis.

University of Leeds

The Chair of Cardiovascular Imaging

Held by: Professor S Plein MRCP MD PhD

Major interest: Innovative cardiac magnetic resonance imaging for patient diagnosis and assessment.

University of Leicester

The Chair of Cardiac Surgery

Held by: Professor G J Murphy BSc MBChB MD FRCS

Major interest: Strategies to reduce distal organ injury occurring during cardiac surgery.

Imperial College London

The Chair of Cardiovascular Science

Held by: Professor C Emanueli BSc PhD

Major interest: Growth and repair of adult blood vessels: roles of stem cells and angiogenic factors.

King's College London

The Chair of Molecular Cardiology

Professor M Gautel MD PhD FMedSci

Major interest: Cellular and molecular biology of the contractile proteins in heart muscle.

King's College London

The Chair of Cardiovascular Proteomics

Held by: Professor M Mayr MD PhD

Major interest: Novel methods to detect and measure biomarkers of cardiovascular risk.

King's College London

The Chair of Cardiology

Held by: Professor K Otsu MD PhD FAHA FMedSci until 31 March 2021

Major interest: Inflammatory mechanisms in heart failure.

King's College London

The Chair of Cardiology

Held by: Professor A M Shah MD FRCP FESC FMedSci

Major interest: Cellular and molecular biology of production of reactive oxygen species in the cardiovascular system and their roles in atherosclerosis, cardiac hypertrophy and heart failure.

Queen Mary University of London

The Chair of Cardiovascular Immunology

Held by: Professor F M Marelli-Berg MD PhD

Major interest: Control of T lymphocyte homing to the heart in rejection, autoimmunity and inflammation.

University of Manchester

The Chair of Cardiac Physiology

Held by: Professor D A Eisner MA DPhil FMedSci until 30 September 2020

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

University of Manchester

The Chair of Cardiology

Held by: Professor B D Keavney BSc BM BCh MRCP (UK) DM FRCP

Major interest: Genetics of heart disease.

University of Oxford

The Chair of Cardiovascular Medicine

Held by: Professor S Bhattacharya MBBS MD MRCP MSc FESC FMedSci

Major interest: Developmental biology of the heart; cardiovascular drug target discovery.

University of Oxford

The Chair of Cardiovascular Medicine

Held by: Professor B Casadei MD DPhil FRCP FESC FMedSci

Major interest: Redox signalling in cardiovascular disease, particularly atrial fibrillation.

University of Oxford

The Field Marshal Earl Alexander Chair of Cardiovascular Medicine

Held by: Professor K M Channon MD FRCP FMedSci

Major interest: Redox signalling in atherosclerosis; using genetics and genomics to discover novel molecular pathways in atherosclerosis.

University of Oxford

The Chair of Medicine and Epidemiology

Held by: Professor Sir Rory Collins MSc MBBS LMSSA FRCP FMedSci FRS

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

University of Oxford

The Chair of Regenerative Medicine

Held by: Professor P R Riley BSc PhD FMedSci

Major interest: Developmental biology of the heart and its applications to cardiac regenerative medicine.

University of Oxford

The Chair of Cardiovascular Medicine

Held by: Professor H C Watkins MD PhD FRCP FMedSci FRS

Major interest: 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 2020–31 March 2021

Fellowships

Listed alphabetically by institute

Non-clinical fellowships

Senior Basic Science Research Fellowships

Reference number	Name	Institution	Grant title	Total
FS/SBSRF/20/31005	**Dr W Li** BSc PhD	University of Cambridge	Molecular basis of endoglin function in cardiovascular diseases. 36 + 24 months	£950,424.00

Intermediate Basic Science Research Fellowships

Reference number	Name	Institution	Grant title	Total
FS/IBSRF/20/25032	**Dr S Santamaria** BSc MSc PhD	Imperial College London	Fingerprinting proteoglycan turnover by ADAMTS proteases in the cardiovasculature. 36 + 24 months	£843,179.10
FS/IBSRF/20/25039	**Dr J Rayes** PhD	University of Birmingham	Novel mechanism of platelet activation in haemolytic diseases. 36 + 24 months	£705,927.51

Note: One award totalling £521,690 was declined.

Immediate Postdoctoral Basic Science Research Fellowships

Reference number	Name	Institution	Grant title	Total
FS/IPBSRF/20/27001	**Dr M Holt** BSc MRes PhD	University College London	Dissecting the role of caudal brainstem corticotropin-releasing hormone signalling and preproglucagon neurons in anxiety-related sympathoexcitation. 36 months	£282,004.93

Career Re-entry Research Fellowship – Daphne Jackson Trust

Reference number	Name	Institution	Grant title	Total
FS/CRERF/21/22501	**Dr K Roberts** BSc PhD	Liverpool John Moores University	Joint BHF/Daphne Jackson Fellowship: The menopausal hot flush: cutaneous vascular and sudomotor function and structure in symptomatic women. 36 months	£149,546.00

4-year PhD Studentships

Reference number	Name	Institution	Grant title	Total
FS/4yPhD/F/20/34128	**Prof S Harding** BSc PhD	Imperial College London	ICL 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Maike Haensal; Ms Zuzanna Jablonska; Ms Anies Makhdomi-Sohi; Ms Dorka Nagy. *48 months*	£627,440.00
FS/4yPhD/F/20/34129	**Prof M Mayr** MD PhD	King's College London	KCL 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Florence Mattingly-Peck; Mr Rafael Oexner; Mr Luca Venditti. *48 months*	£461,010.00
FS/4yPhD/F/20/34133	**Prof A Ahluwalia** BSc PhD	Queen Mary University of London	QMUL 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Serena Bert; Mr Gregory Funge; Mr Dominic Huxley; Ms Nikayla Patel. *48 months*	£594,796.00
FS/4yPhD/F/20/34134	**Prof A Hughes** BSc MBBS PhD	University College London	UCL 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Mr Luke Hunter; Ms Yue Jiang; Ms Chloe Kan Yan Li; Mr Liam Swanson. *48 months*	£611,320.00
FS/4yPhD/F/20/34125	**Prof A Poole** VetMB MA MRCVS PhD	University of Bristol	Bristol 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Megan Allen; Ms Amy Harris; Ms Molly Jackson; Ms Helena Urguijo; Ms Androulla Christodoulou. *48 months*	£683,980.00
FS/4yPhD/F/20/34124	**Prof M Bennett** BSc MBChB PhD MA FRCP FAHA FMedSci	University of Cambridge	Cambridge 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Mr Franklin Lo; Ms Karolina Kostrzynska; Mr Benjamin Thackray. *48 months*	£473,388.00
FS/4yPhD/F/20/34126	**Prof N Morton** BSc PhD	University of Edinburgh	Edinburgh 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Bronwyn Berkeley; Ms Franceska Kishta; Ms Shaden Melhem; Ms Kalyani Pandya. *48 months*	£554,688.00
FS/4yPhD/F/20/34127	**Prof R Touyz** BSc MBBCh MSc PhD FMedSci	University of Glasgow	Glasgow 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Emma Booth; Ms Laura Gonzalez Trueba; Mr Corey McLeese; Ms Lara Peden. *48 months*	£554,692.00
FS/4yPhD/F/20/34130	**Prof P Stewart** MBChB MD	University of Leeds	Leeds 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Eva Clavane; Ms Manon Owen; Ms Katie Smith; Ms Hannah Taylor. *48 months*	£558,024.00
FS/4yPhD/F/20/34131	**Prof E Cartwright** BSc MSc PhD	University of Manchester	Manchester 4th intake 2020 – 4-year PhD Studentship (4th) Scheme: Ms Daisy Flatman; Mr Nadim Luka; Ms Megan Mckie; Ms Katy Walsh. *48 months*	£554,688.00
FS/4yPhD/F/20/34132	**Prof D Greaves** BSc PhD	University of Oxford	Oxford 4th intake – The Wilson and Olegario Class of 2020 – 4-year PhD Studentship (4th) Scheme: Ms Claire Aitken; Ms Camille Charriere; Ms Milda Folkmanaite; Mr Lewis Timms. *48 months*	£616,120.00

PhD Studentships

Reference number	Name	Institution	Grant title	Total
FS/PhD/21/29113	**Mr L Arthur** BSc MPhys	Heriot Watt University, Edinburgh	Vascular mathematical models for the refinement of the prognostic assessment of post-ischaemia neovascularisation. *36 months*	£100,698.00
FS/PhD/21/29099	**Mr B Downing** BSc MSc	Imperial College London	How do changes in cardiac biomechanical load during development and growth affect the cardiomyocyte phenotype? A study using engineered heart tissue. *36 months*	£132,589.00
FS/PhD/20/29032	**Ms R Steele** BSc LLM	Newcastle University	Pax9 regulation of extracellular matrix production in the pharyngeal endoderm. *36 months*	£109,229.00
FS/PhD/20/34975	**Ms A Held** BSc MSc	University of Aberdeen	Wnt signalling response to myocardial infarction. *36 months*	£123,883.00
FS/PhD/21/29105	Student to be appointed (Supervisor: Prof M Delibegovic)	University of Aberdeen	Targetting myeloid-PTP1B to prevent obesity-related retinal microvascular disease. *36 months*	£109,178.00
FS/PhD/20/29093	**Mr D Nathanael** BSc	University of Birmingham	Defining the mechanistic importance of CD73 in promoting carotid body-mediated hypertension and cardiac arrhythmia in response to pathological hypoxia. *36 months*	£107,088.39
FS/PhD/21/29123	**Ms T Wegnelius** BSc MSc	University of Bristol	Investigation of mechanisms of congenital heart defects during embryonic development using CRISPR-edited human pluripotent stem cell-derived cardiovascular progenitors. *21 months*	£66,728.75
FS/PhD/20/29025	**Ms K Wadmore** BSc MRes	University of Liverpool	Defining the structural basis of arrhythmia: how do long QT syndrome-associated calmodulin mutations affect Kv7.1? *36 months*	£109,618.57
FS/PhD/21/29031	**Ms B Callander** BSc MSc	University of Manchester	Developing a validated condition-specific tool to assess illness perceptions in patients with congenital heart disease: a phased mixed methods study. *36 months*	£83,500.00
FS/PhD/20/29053	**Mr A Grassam-Rowe** BA BM BCh	University of Oxford	Developing human iPSC-derived engineered atrial tissue for mechanistic study of atrial fibrillation and novel therapy development. *36 months*	£119,085.00
FS/PhD/21/29110	**Mr Y Li** BSc MSc	University of Oxford	Interpretable and probabilistic deep learning models for heart failure risk prediction using temporal and multi-modal UK electronic health records. *28 months*	£104,939.00
FS/PhD/20/29049	**Ms K Behnam** MPharm MRes	University of Reading	Investigation into the role of omega-3 fatty acids and structural analogues on Kv7 channel function and vasodilator mechanisms. *36 months*	£109,654.00

Clinical Fellowships

Senior Clinical Research Fellowships

Reference number	Name	Institution	Grant title	Total
FS/SCRF/20/32005	**Prof N Herring** MBBCh MA DPhil	University of Oxford	Neuropeptide-Y pathophysiology in the development of heart failure. *36 + 24 months*	£952,857.47

Intermediate Clinical Research Fellowships

Reference number	Name	Institution	Grant title	Total
FS/ICRF/21/26019	**Dr B Halliday** BSc MBChB MRCP PhD	Imperial College London	Examining the role of mitochondrial oxidative stress in dilated cardiomyopathy using a novel therapeutic probe. *60 months*	£1,092,786.39
FS/ICRF/20/26002	**Dr M Williams** BSc MBChB MRCP PhD	University of Edinburgh	Incidental coronary calcification on thoracic computed tomography. *36 + 24 months*	£942,460.00

Clinical Research Leave Fellowship

Reference number	Name	Institution	Grant title	Total
FS/CRLF/20/23004	**Dr D Knight** BSc MBBS MRCP MD	University College London	Towards a more comprehensive assessment of pulmonary vascular phenotypes by magnetic resonance-augmented right heart catheterisation. *36 months*	£125,304.12

Travel Fellowships

Reference number	Name	Institution	Grant title	Total
FS/TF/21/33008	**Dr G Gulsin** BSc MBChB MRes MRCP	University of Leicester	University of British Columbia Advanced Cardiac Imaging Fellowship: 1) Understanding bioprosthetic leaflet degeneration in patients with and without type 2 diabetes – a pilot study, and 2) Coronary artery plaque characteristics and their association with outcomes – analyses from the ISCHEMIA trial. *12 months*	£48,837.00
FS/TF/20/33001	**Dr A Lewis** MBBS MRes MRCP DPhil	University of Oxford	Imaging human cardiovascular macrophages using 64Cu-Macrin positron emission tomography. *12 months*	£91,382.00

Clinical Research Training Fellowships

Reference number	Name	Institution	Grant title	Total

FS/CRTF/21/24118	**Dr S Ezad** MBBCh	King's College London	HEmodynamic effects of Reducing lv Afterload with impella or intra-aortic balloon CounterpuLsation during veno-arterial Extracorporeal membrane oxygenation in cardiogenic Shock – the HERACLES study. *36 months*	£295,288.31
FS/CRTF/20/24011	**Dr R Hajhosseiny** BSc MBBS	King's College London	Simultaneous non-contrast free breathing 3D high resolution magnetic resonance coronary artery angiography and high-risk plaque imaging. *24 months*	£178,187.08
FS/CRTF/20/24047	**Dr R Morris** BSc MBChB	King's College London	The impact of venous outflow obstruction on venous return to the heart – preload, cardiac function and exercise tolerance. *36 months*	£247,946.80
FS/CRTF/20/24058	**Dr D Harding** BM BCh MChem	Queen Mary University of London	The role of adaptive immunity in inflammatory heart muscle disease. *36 months*	£293,824.10
FS/CRTF/20/24022	**Dr D Cannie** BA MBBS MA	University College London	Determining the impact of a genetic diagnosis in patients and families with dilated cardiomyopathy. *24 months*	£165,381.42
FS/CRTF/21/24143	**Dr F Chan** BSc MBBS	University College London	The arrhythmogenic potential of midwall septal fibrosis in non-ischaemic dilated cardiomyopathy. A combined ECGi and CMR investigative study. *36 months*	£284,929.67
FS/CRTF/21/24128	**Dr G Thornton** BSc MBBS	University College London	Myocardial adaptation and reverse remodelling in aortic regurgitation: integrating invasive and non-invasive phenotyping by CMR and biopsy. *36 months*	£284,508.87
FS/CRTF/21/24122	**Dr L Pannell** BSc MBChB	University of Bristol	Circadian rhythms in electrophysiology and pro-arrhythmic activity of pulmonary vein cardiomyocytes. *36 months*	£278,749.46
FS/CRTF/20/24035	**Dr A Corovic** BSc MBBS	University of Cambridge	Imaging residual myocardial inflammation using macrophage somatostatin receptor-2 PET/MRI to predict post-infarct injury: the RIPPLE-infarct study. *24 months*	£172,215.00
FS/CRTF/20/24079	**Dr P Gallacher** BMedSci MB ChB	University of Edinburgh	The burden of cardiovascular disease in patients with kidney disease: temporal trends and treatment gaps. *24 months*	£167,017.91
FS/CRTF/20/24087	**Dr S Joshi** MBBS	University of Edinburgh	Altered myocardial calcium-handling in patients with diabetes mellitus or heart failure. *24 months*	£146,019.59
FS/CRTF/20/24086	**Dr E Tzolos** MD MRCP	University of Edinburgh	Incidence, consequences and natural history of left ventricular thrombus after acute anterior myocardial infarction. *22 months*	£231,336.69
FS/CRTF/21/24129	**Dr B Whittington** BSc MBChB	University of Edinburgh	Role and origin of thromboembolism in the pathogenesis of ischaemic stroke. *36 months*	£283,948.43
FS/CRTF/20/24003	**Dr A Chowdhary** MBBS MSc MRCP	University of Leeds	The impact of type 2 diabetes on cardiac metabolic phenotype in patients with severe aortic stenosis. *21 months*	£124,695.00

FS/CRTF/20/24071	**Dr S Straw** BSc MBChB	University of Leeds	How does personalising the heart-rate programming of cardiac implantable electronic devices in patients with heart failure due to reduced ejection fraction improve exercise time and promote better left ventricular function? *36 months*	£273,359.60
FS/CRTF/20/24069	**Dr A Dattani** BMedSci MBBS	University of Leicester	A novel cardiac magnetic resonance technique to quantify altered myocardial calcium handling in diabetic cardiomyopathy and the response to lifestyle intervention. *36 months*	£298,444.24
FS/CRTF/21/24140	**Dr M Obeidat** BSc BMBS	University of Manchester	Elucidating the importance of cellular calcium buffering in determining diastolic and systolic calcium in the heart in health and disease. *36 months*	£284,226.00
FS/CRTF/20/24060	**Dr A Frost** BSc BMBS MRCOG	University of Oxford	Role of tetrahydrobiopterin in the pathophysiology and long-term complications of preeclampsia: a randomised controlled trial in mothers and offspring. *36 months*	£327,899.23

Research Training Fellowship For Nurses and Allied Health Professionals

Reference number	Name	Institution	Grant title	Total
FS/RTF/20/30009	**Ms A Rudd** MSc	University of Aberdeen	Epidemiology and predisposition of acute stress-induced (Takotsubo) cardiomyopathy. *36 months*	£215,051.00
FS/RTF/21/30028	**Miss S Stewart** BSc MN	University of Edinburgh	Developing a brief intervention to communicate cardiovascular risk to patients presenting to the emergency department with chest pain: a co-production approach. *36 months*	£178,043.62

Infrastructure Grant

Reference number	Name	Institution	Grant title	Total
IG/F/20/50006	**Prof D Grieve** BSc PhD	Queen's University Belfast	High-resolution preclinical ultrasound imaging system. *12 months*	£175,000.00

Special Project Grants

Listed alphabetically by institute

Reference number	Name	Institution	Grant title	Total
SP/F/20/150014	**Dr R Priya** PhD	The Francis Crick Institute	Joint funding with The Francis Crick Institute for a BHF-Crick Early Career Group Leader Programme. Design principles of heart morphogenesis: forces and fate. *72 months*	£671,496.00

SP/F/20/150002	**Prof M Hamer** BSc MSc PhD	University College London	The next generation of evidence on cardiovascular disease prevention using device-based assessments of physical behaviour in harmonised pooled cohorts: the Prospective Physical Activity, Sitting and Sleep consortium (ProPASS). *36 + 24 months*	£855,124.79
SP/F/20/150010	**Prof Z Mallat** MD PhD	University of Cambridge	Intermittent hyperlipidaemia accelerates the development of atherosclerosis: cellular and molecular mechanisms. *36 months*	£610,319.64

Clinical Study Grants

Reference number	Name	Institution	Grant title	Total
CS/F/20/35120	**Dr R de Silva** BSc PhD MBBS FRCP	Imperial College London	REducing Microvascular dysfunction in patients with angina, ischaemia and unobstructED coronarY arteries – a pilot study (REMEDY-Pilot). *36 months*	£287,287.00
CS/F/20/190025	**Prof M Brown** MA MSc MD FRCP FAHA FMedSci	Queen Mary University of London	A prospective randomised trial comparing radiofrequency ablation With laparoscopic Adrenalectomy as an alternatiVE treatment for unilateral primary aldosteronism (WAVE). *48 months*	£497,884.07
CS/F/20/190016	**Prof M Reed** MA MB BChir MRCS FCEM MD	University of Edinburgh	Multi-centre open label randomised controlled trial of immediate 14-day ambulatory ECG monitoring versus standard care in acute unexplained syncope patients (the ASPIRED study). *48 months*	£1,303,649.37

Programme Grants

Listed alphabetically by institute

Reference number	Name	Institution	Grant title	Total
RG/F/20/110020	**Prof V O'Donnell** BSc PhD	Cardiff University	Determining how bioactive phospholipids regulate development of abdominal aortic aneurysm and coagulation using multi-omic approaches. *36 + 24 months*	£1,198,596.00
RG/F/21/110040	**Prof G Antoniades** MD PhD	University of Oxford	Developing novel biomarkers for cardiovascular risk stratification using computed tomography imaging of perivascular adipose tissue. *60 months*	£1,100,000.00
RG/F/20/110030	**Prof P Riley** BSc PhD FMedSci	University of Oxford	The immunomodulatory role of the cardiac lymphatics in heart failure. *36 + 24 months*	£1,211,550.85
RG/F/20/110025	**Prof E Tzima** PhD	University of Oxford	Role of Plexin D1 in flow-induced atherosclerosis progression. *36 + 24 months*	£1,000,000.00
RG/F/20/110007	**Prof J McCarron** BSc PhD	University of Strathclyde	A multicellular endothelial signalling web coordinates vascular function and is impaired in hypertension. *36 + 24 months*	£1,000,000.00

Translational Awards

Listed alphabetically by institute

Reference number	Name	Institution	Grant title	Total
TA/F/20/210021	**Prof J Simpson** BSc MBChB MD FRCP	King's College London	Virtual reality imaging for surgical and catheter interventions in congenital heart disease. *24 months*	£490,110.99
TA/F/20/210001	**Prof M Bennett** BSc MBChB PhD MA FRCP FAHA FMedSci	University of Cambridge	AutoOCT: development of a fully automated system for unbiased coronary artery disease evaluation for drug efficacy studies and risk prediction. *24 months*	£630,711.38
TA/F/20/210022	**Prof A Baker** BSc PhD FAHA FESC FMedSci FRSE	University of Edinburgh	Targeting the long non-coding RNA SMILR using small interfering RNA for therapeutic intervention in vein graft failure. *30 months*	£368,866.71
TA/F/20/210014	**Dr D Adlam** BA BM BCh DPhil FRCP	University of Leicester	Pericardial applied left ventricular assist device (PAL-VAD): evaluation of chronic performance, optimisation and completion of a first-in-human feasibility study. *6 months*	£88,869.88

Project Grants

Listed alphabetically by institute

Reference number	Name	Institution	Grant title	Total
PG/20/10419	**Dr H Ahmed** MB BCh MRCS MRCGP PhD	Cardiff University	Investigating causal relationships between urinary tract infection and acute myocardial infarction or stroke. *36 months*	£219,146.60
PG/2019/34930	**Dr S Pyner** BSc PhD	Durham University	How do renal sensory afferents influence central cardiovascular neurons to regulate sympathetic outflow? *36 months*	£213,210.40
PG/21/10363	**Dr N MacQuaide** BSc PhD	Glasgow Caledonian University	Targeting PDE3/4 to allow regulation of cardiac calcium homeostasis in disease. *18 months*	£129,254.00
PG/21/10422	**Dr J Boyle** MBChB BSc PhD FRCPath	Imperial College London	Development of versatile fluorescence probes for detection and imaging of heme oxygenase 1 (HO-1) activity in haemorrhage for clinical diagnostics. *24 months*	£286,190.00
PG/20/10039	**Dr A Chester** BSc PhD	Imperial College London	Role of the angiotensin II and natriuretic peptides in aortic valve disease. *24 months*	£137,217.00
PG/2019/34897	**Dr A Phinikaridou** BSc MA PhD	King's College London	Quantification and modulation of vascular inflammatory activity for the detection and treatment of high-risk atherosclerotic plaque. *24 months*	£268,162.00

PG/21/10539	**Dr S Roujol** PhD	King's College London	Enabling clinical translation of a novel quantitative cardiac MRI technique for improved non-contrast assessment of chronic myocardial scar. *36 months*	£271,549.50
PG/20/10427	**Dr O Rudyk** BSc MSc PhD	King's College London	Investigating a redox regulation of CDK4 and its role in vascular cell proliferation: implications for pulmonary hypertension. *36 months*	£304,726.58
PG/20/10387	**Dr K Theofilatos** BSC MSc PhD	King's College London	Harnessing machine learning for a multi-omics approach to cardiovascular disease. *24 months*	£195,158.27
PG/2019/34798	**Dr A Unsworth** MBiochem PhD	Manchester Metropolitan University	PIM kinase and the regulation of platelet function, thrombosis and haemostasis. *36 months*	£249,644.70
PG/20/10166	**Prof A Hobbs** BSc PhD	Queen Mary University of London	Targeting multidrug resistance proteins to promote cytoprotective cyclic GMP signalling in heart failure. *36 months*	£267,381.40
PG/20/10458	**Prof Q Xiao** MBBS MD PhD	Queen Mary University of London	Endothelial repair by CD34+ stem/ progenitor cells in atherosclerosis. *36 months*	£304,530.26
PG/20/10424	**Dr C Watson** BSc PhD PGDipUT&L	Queen's University Belfast	Epigenetic changes in the diabetic heart: implications for DNA methylation in the pathogenesis of cardiomyopathy towards therapeutic application. *36 months*	£232,932.00
PG/20/10397	**Dr A Hainsworth** MA PhD	St George's, University of London	A transgenic pig model for ET1-mediated vascular disease. *24 months*	£203,013.36
PG/20/10170	**Prof P Elliott** MBBS MD FRCP FACC FESC	University College London	Investigating the causes of mutation-negative hypertrophic cardiomyopathy: role of cryptic RNA mis-splicing in myosin binding protein C (MYBPC3). *36 months*	£221,111.37
PG/20/10292	**Dr M Bond** BSc PhD	University of Bristol	Nuclear actin as a biomechanical regulator of vascular calcification. *36 months*	£241,723.00
PG/21/10444	**Dr C Dempsey** PhD	University of Bristol	Analysis of evolutionary coupled amino acid residues in hERG as an approach to evaluate predictability of LQT2 variant phenotypes. *36 months*	£239,556.00
PG/20/10187	**Dr R Foster** BSc PHD	University of Bristol	Endothelial glycocalyx restoration to prevent proteinuria-associated vascular damage. *36 months*	£200,168.00
PG/20/10252	**Prof J Hancox** BSc PhD DSc FRSB FBPhS	University of Bristol	Functional and pathological significance of hERG potassium channel variants in the Selectivity Filter-S6 (SF-S6) linker. *36 months*	£250,377.00
PG/20/10325	**Prof J Hancox** BSc PhD DSc FRSB FBPhS	University of Bristol	A rational preclinical basis for maximising cardiac safety in citalopram use. *36 months*	£232,594.00

PG/20/10285	**Prof P Madeddu** MD	University of Bristol	Targeting the SARS-CoV-2 S-protein binding to the ACE2 receptor to preserve human cardiac pericyte function in COVID-19. *12 months*	£55,393.00
PG/20/10025	**Dr T Krieg** Dr. med. habil.	University of Cambridge	Targeting mitochondrial metabolic and redox status to treat ischaemia / reperfusion injury. *36 months*	£349,477.00
PG/20/10270	**Dr K O'Shaughnessy** MA BM BCh DPhil ScD FRCP FHEA FBPhS	University of Cambridge	Age-related arterial stiffening (ARAS): biomarkers for disease stratification and identifying the molecular drivers of stiffening. *36 months*	£252,658.51
PG/20/10042	**Prof A Munsterberg** PhD	University of East Anglia	The accessible chromatin landscape of cardiac progenitors: characterising regulatory elements on a genome-wide scale. *36 months*	£279,613.00
PG/20/10347	**Prof A Baker** BSc PhD FAHA FESC FMedSci FRSE	University of Edinburgh	Functional analysis of the lncRNA MIR503HG in endothelial cell identity and endothelial-to-mesenchymal transition. *18 months*	£124,526.84
PG/21/10461	**Dr R Forsythe** MBChB PhD	University of Edinburgh	Predicting endoleaks following endovascular aneurysm repair. *36 months*	£293,581.16
PG/21/10531	**Dr L Dowsett** BSc PhD	University of Glasgow	Asymmetric dimethylarginine (ADMA) signalling via the calcium sensing receptor in cardiometabolic disease. *36 months*	£286,456.00
PG/21/10541	**Dr P Maffia** BSc MPhil PhD FHEA FRSB FBPhS FESC	University of Glasgow	Defining differential role(s) of the TAM receptor Axl in atherosclerosis. *24 months*	£163,323.25
PG/2019/35089	**Dr P Pellicori** MD	University of Glasgow	Iron deficiency and elective cardiac surgery: prevalence, diagnosis and bone marrow iron repletion following intravenous iron. *36 months*	£319,374.10
PG/20/10069	**Dr A Workman** BSc PhD	University of Glasgow	Pharmacological and dynamic-clamp narrowing of the calcium current window to inhibit human atrial early afterdepolarisations and atrial fibrillation. *36 months*	£262,421.00
PG/20/10008	**Prof D Buckley** BSc MSc PhD	University of Leeds	The impact of water exchange on measures of myocardial blood flow and extracellular volume by contrast-enhanced MRI. *36 months*	£203,699.96
PG/20/10327	**Dr K Griffin** PhD MA MBBChir MRCS PGDip	University of Leeds	Is insulin a regulator of pericyte-endothelial cell communication? *36 months*	£195,600.49

PG/21/10515	**Dr A Kalli** PhD	University of Leeds	Understanding the activation and ion permeation of the human Piezo1 channel. *36 months*	£278,891.91
PG/21/10322	**Dr P Swoboda** MA MBBS MRCP PhD	University of Leeds	Is there an association between cardiac fibrosis and ventricular arrhythmia in endurance athletes? *36 months*	£316,529.91
PG/20/10132	**Dr M Graham-Brown** BSc MBChB MRes PhD	University of Leicester	NIGHTLIFE-CMR: a cardiac MRI sub-study investigating the impact of in-centre nocturnal haemodialysis on cardiac structure and function. *36 months*	£146,055.72
PG/20/10056	**Dr T Webb** BSc MRes PhD	University of Leicester	Functional investigation of the coronary artery disease associated gene SVEP1 in vascular smooth muscle contraction. *36 months*	£247,275.45
PG/20/10026	**Dr S Borland** BSc PhD	University of Manchester	PKCα/TGF-β signalling axis: a novel therapeutic target for arterial medial calcification. *36 months*	£250,304.00
PG/2019/34923	**Prof A Nicolaou** BSc PhD FRSC	University of Manchester	Understanding how bioactive lipid mediators contribute to vascular dysfunction and target organ damage in systemic lupus erythematosus: a translational opportunity. *36 months*	£287,976.00
PG/20/10260	**Prof K Dora** BSc PhD MA	University of Oxford	Coronary microvascular actions of neuropeptide Y. *36 months*	£268,779.00
PG/20/10066	**Dr G Douglas** BSc PhD	University of Oxford	Defining the role of the CAD gene JCAD in vascular remodelling. *36 months*	£286,576.14
PG/21/10512	**Dr M Lei** BM MD DPhil	University of Oxford	Critical functional roles of PNMT+ derived cardiomyocytes in healthy and hypertrophied hearts. *36 months*	£208,595.50
PG/2019/34842	**Dr A Lewis** DPhil MRCP MRes MBBS	University of Oxford	Understanding the grey zone: precision energetic phenotyping of hearts with nonischaemic mild left ventricular systolic dysfunction without heart failure. *36 months*	£151,353.00
PG/21/10341	**Dr J Sheppard** BSc PGCert PhD	University of Oxford	Optimising treatment for mild systolic hypertension in the elderly (OPTIMISE) extension study: long-term follow-up of a randomised controlled trial. *18 months*	£123,139.96
PG/20/10072	**Prof D Leake** BSc PhD	University of Reading	Lysosomal oxidation of low density lipoprotein causes inflammation in atherosclerosis. *36 months*	£184,481.00
PG/20/10017	**Prof T Chico** MBCHB MD MRCP	University of Sheffield	Establishing the structure, regulation, and conservation of endothelial 'kugeln'. *24 months*	£177,500.00
PG/20/10010	**Prof S Francis** BSc PhD	University of Sheffield	Atherosclerosis, the brain and vascular dementia – the role of inflammation in neurovascular function. *36 months*	£265,307.00

PG/20/10410	**Prof M Thornhill** FDSRCS FDSRCSEd FDSRCSI	University of Sheffield	The invasive surgical procedure infective endocarditis association study (the I-SPIE association study). *24 months*	£104,726.00
PG/21/10468	**Dr S Pitt** BSc PhD	University of St Andrews	Cellular zinc is at the heart of sarcoplasmic reticulum calcium leak in cardiac muscle. *36 months*	£252,430.58

Note: One award totalling £297,289.62 was declined.

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