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# Beat heartbreak forever.

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British Heart Foundation Research Grant Awards 2017/18

#### Introduction

In the year April 2017 to March 2018 the British Heart Foundation (BHF) awarded grants totalling £108.4 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 intermediate and senior Fellowships are interviewed.

In 2017-2018 the Chairs and Programme Grants Committee awarded £50.4 million to Personal Chairs, Programme Grants, Infrastructure Grants and other major projects. This included £7.5 million to provide a second round of funding to three BHF Centres of Regenerative Medicine, £3 million towards the National Prevention Research Initiative, and £2 million towards Health Data Research UK awards for the analysis of big data. It also included £327,054 towards six data science awards jointly funded with The Alan Turing Institute.

There were 31 chairholders (also referred to as BHF Professors) in post on 31 March 2018. 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 held its first meeting in May 2017 to support clinical trials of treatments, diagnostics and other interventions and certain observational studies of specific patient groups. The Committee awarded  $\pounds 3.6$  million to three applications.

The Translational Awards Committee awarded £1.2 million to five 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 £32.2 million to 82 applications, and the Project Grants Committee awarded £21.3 million to 98 applications.

The pages that follow list BHF chairholders in post, and new awards made for Fellowships, Regenerative Medicine Centres, Infrastructure Grants, Special Project Grants, Clinical Study Grants, Programme Grants, New Horizons Grants, Translational Awards and Project Grants

Full details of all types of award offered by the 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 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 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 Congenital Heart Surgery Held by: Professor M Caputo MD MCh FRCS from 1 October 2017

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

#### **University of Bristol**

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.

#### 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 interests:* 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

*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 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 FMedSci

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

#### University of Edinburgh

The John Wheatley 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.

All of the figures above include supplements made to new and existing grants.

British Heart Foundation Research Grant Awards 2017/18
BHF Chairholders

#### **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 Simon Marks Chair of Regenerative Cardiology Held by: Professor M D Schneider MD FMedSci

**Major interests:** Molecular control of cardiac myocyte growth and death; strategies for regenerative cardiac medicine.

#### King's College London

The Chair of Molecular Cardiology Held by: 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 Cardiology
Held by: Professor K Otsu MD PhD FAHA
FMedSci

*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.

#### King's College London

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

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

#### King's College London

The Chair of Cardiovascular Proteomics Held by: Professor M Mayr MD PhD from 1 May 2017

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

### 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 College London**

The Vandervell Chair of Congenital Heart Disease (to 30<sup>th</sup> September 2017) Held by: Professor J E Deanfield BA BChir MB 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:** Cellular and molecular physiology of the role of calcium in control of heart rhythm.

#### **University of Manchester**

The Chair of Cardiology
Held by: Professor B D Keavney BSc BM BCh
MRCP 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 interests:* 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 interests:* 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 interests: 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 interests*: 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 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.

#### University of Swansea

The Sir Thomas Lewis Chair of Cardiovascular Science Held by: Professor A J Williams BA PhD

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

6 British Heart Foundation Research Grant Awards 2017/18

# Awards made during the year 1 April 2017 - 31 March 2018

#### **Fellowships**

Listed alphabetically by Institute

#### Non-clinical Fellowships

| Senior Basic Scienc | e Research Fellowshi                 | ips                         |                                                                                                                                                                                             |            |
|---------------------|--------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Reference number    | Name                                 | Institution                 | Grant title                                                                                                                                                                                 | Total      |
| FS/18/1/33234       | Dr J Johnson<br>MSc PhD              | University<br>of Bristol    | The role of the GM-CSF receptor CSF2RA in inflammatory cardiovascular diseases. <i>5 years</i>                                                                                              | £1,046,617 |
| FS/18/19/33371      | <b>Dr M Clarke</b><br>BSc PhD        | University of<br>Cambridge  | Do IL-1R2 and inflammatory caspases regulate IL-1 in senescence and atherosclerosis? <i>4 years</i>                                                                                         | £479,983   |
| FS/17/35/32929      | <b>Dr S De Val</b><br>BSc PhD        | University<br>of Oxford     | Determining the regulatory pathways controlling venous and lymphatic vessel growth and their role during heart development and regeneration.  5 years                                       | £1,150,716 |
| FS/17/55/33100      | <b>Dr D Sparrow</b><br>BSc PhD       | University<br>of Oxford     | Investigation of the mechanisms of environmental causes of congenital heart disease. <i>5 years</i>                                                                                         | £940,865   |
| ntermediate Basic   | Science Research Fe                  | llowships                   |                                                                                                                                                                                             |            |
| Reference number    | Name                                 | Institution                 | Grant title                                                                                                                                                                                 | Total      |
| FS/17/36/32874      | <b>Dr R Charles</b><br>PhD           | King's College<br>London    | Activation of soluble epoxide hydrolase by intra-<br>protein disulfide formation: role in regulating<br>cardiovascular function in health and disease.<br>5 years                           | £672,733   |
| FS/17/57/32934      | <b>Dr M Stroud</b><br>BSc PhD        | King's College<br>London    | Understanding the role of the nuclear envelope in cardiovascular development and disease. <i>5 years</i>                                                                                    | £719,417   |
| FS/18/20/33449      | <b>Dr M Nixon</b><br>BSc PhD         | University<br>of Edinburgh  | Adipose glucocorticoid exposure is regulated by proteolytic cleavage of corticosteroid binding globulin (CBG). <i>5 years</i>                                                               | £675,929   |
| FS/17/56/32925      | Dr N Helassa<br>PhD                  | University<br>of Liverpool  | CALM HEART. Investigating the role of calmodulin in cardiac arrhythmia. <i>5 years</i>                                                                                                      | £578,581   |
| FS/18/4/33310       | Dr C Pinali<br>PhD                   | University of<br>Manchester | An ultrastructural study to elucidate how proteoglycans determine the elastic properties of the cardiac extracellular matrix in health and disease. 5 years                                 | £723,660   |
| FS/17/58/33072      | <b>Dr L Heather</b><br>BSc DPhil     | University<br>of Oxford     | Lipids: dysregulated signalling molecules in the type 2 diabetic heart? 5 years                                                                                                             | £628,379   |
| FS/18/3/33292       | <b>Dr A Lewandowski</b><br>BSc DPhil | University<br>of Oxford     | Cardiac remodelling in preterm-born offspring: defining the importance of early postnatal changes and potential for neonatal dietary interventions to reduce long-term risk. <i>5 years</i> | £658,359   |
| FS/18/2/33221       | Dr J Serbanovic<br>Canic<br>PhD      | University<br>of Sheffield  | Role of the mechanoreceptor Pkd1 in endothelial dysfunction and atherosclerosis. 5 years                                                                                                    | £389,932   |

| Reference number  | Name                                                     | Institution                            | Grant title                                                                                                                                                               | Total    |
|-------------------|----------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| FS/18/5/33319     | <b>Dr M Katsoulis</b><br>PhD                             | University<br>College London           | Weight change and the onset and progression of cardiovascular diseases in large-scale electronic health records. <i>4 years</i>                                           | £246,519 |
| FS/17/59/33117    | Dr D Tsiantoulas<br>BSc PhD                              | University of<br>Cambridge             | The role of APRIL (A Proliferation Inducing Ligand) in myocardial infarction. <i>3 years</i>                                                                              | £240,221 |
| FS/18/24/33424    | <b>Dr R Tyser</b><br>BSc PhD                             | University of Oxford                   | Initiation of the first heartbeat: from single cell calcium oscillations to propagating waves. <i>4 years</i>                                                             | £267,013 |
| FS/17/37/32937    | Dr P Collings<br>BSc MSc MPhil<br>PhD                    | University<br>of York                  | Combined associations of sleep duration, sedentariness and intensity-specific physical activity with non-communicable disease risk markers in childhood. <i>4 years</i>   | £198,344 |
| I-year PhD Studen | tships                                                   |                                        |                                                                                                                                                                           |          |
| Reference number  | •                                                        | Institution                            | Grant title                                                                                                                                                               | Total    |
| FS/17/64/33476    | Prof S Harding<br>BSc PhD                                | Imperial College<br>London             | ICL 1st intake 2017 – 4-year PhD Studentship (4th)<br>Scheme: Mr Alexander Ainscough; Ms Julia Garcia;<br>Ms Jennifer Veneta Todorova; Ms Tamzin Zawadzki.<br>4 years     | £669,224 |
| S/17/65/33481     | Prof M Mayr<br>MD PhD                                    | King's College<br>London               | KCL 1st intake 2017 – 4-year PhD Studentship (4th)<br>Scheme: Ms Jessica Chandler; Mr Daniel Koch; Mr<br>Mihai Pruna; Ms Ella Reed. <i>4 years</i>                        | £661,580 |
| S/17/69/33484     | Prof A Ahluwalia<br>BSc PhD                              | Queen Mary,<br>University of<br>London | QMUL 1st intake 2017 – 4-year PhD Studentship (4th)<br>Scheme: Mr Joshua Dignam; Ms Shireen Mohammad;<br>Ms Nur Mousa; Mr Stefan Russo.<br>4 years                        |          |
| S/17/70/33482     | Prof A Hughes<br>BSc MBBS PhD                            | University<br>College London           | UCL 1st intake 2017 – 4-year PhD Studentship (4th)<br>Scheme: Ms Annalisa Bettini; Ms Jasmine Gratton; Ms<br>Maria Maranon; Mr Michael Magnussen. <i>4 years</i>          | £663,924 |
| FS/17/60/33474    | Prof A Poole<br>MA PhD VetMB<br>FBPhS MRCVS              | University<br>of Bristol               | Bristol 1st intake 2017 – 4-year PhD Studentship (4th)<br>Scheme: Ms Tessa Forbes; Mr Michael Mosley; Ms<br>Audrys Pauza; Mr Kurt Taylor. <i>4 years</i>                  | £610,876 |
| FS/17/61/33473    | Dr M Bennett<br>BSc MBChB PhD<br>MA FRCP FAHA<br>FMedSci | University<br>of Cambridge             | Cambridge 1st intake 2017 – 4-year PhD Studentship<br>(4th) Scheme: Ms Anna Francis; Ms Alice Sowton;<br>Ms Jennifer Leggat; Ms Robyn Macrae. <i>4 years</i>              | £664,424 |
| S/17/62/33477     | <b>Prof M Bailey</b><br>BSc PhD FRSB                     | University<br>of Edinburgh             | Edinburgh 1st intake 2017 – 4-year PhD Studentship (4th)<br>Scheme: Ms Viktoria Balogh; Ms Loes Elemans; Ms Iris<br>Prunonosa-Cervera; Mr Benjamin Thomas. <i>4 years</i> | £624,376 |
| FS/17/63/33485    | Prof R Touyz<br>BSc MBBCh MSc<br>PhD FMedSci             | University<br>of Glasgow               | Glasgow 1st intake 2017 – 4-year PhD Studentship<br>(4th) Scheme: Mr Simon Fisher; Ms Erin Higgins; Ms<br>Alice Main; Ms Kayley Scott. <i>4 years</i>                     | £607,316 |

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|----------------------|------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| FS/17/76/33286       | <b>Mr M Hudda</b><br>BSc MSc PhD                           | St George's,<br>University of<br>London | Improving assessments of body fatness, overweight and obesity in UK children and adolescents of different ethnic origins. <i>3 years</i>                                                       | £94,199  |
| FS/17/28/32807       | Ms C Lewis<br>BSc                                          | University<br>of Aberdeen               | Inhibiting angiogenesis in aortic valves via S1P receptors: a new therapeutic target. <i>3 years</i>                                                                                           | £107,465 |
| FS/17/29/32828       | Mr P Harrison<br>BSc PhD FRCPath                           | University<br>of Birmingham             | Measurement of preplatelets in inherited and acquired thrombocytopenia. 3 years                                                                                                                | £107,497 |
| FS/18/9/33388        | Miss C Koo<br>BSc MSc                                      | University<br>of Birmingham             | Identifying the tetraspanin/ADAM10 'molecular scissor' for the platelet collagen and fibrin receptor GPVI. <i>3 years</i>                                                                      | £120,670 |
| FS/18/11/33443       | Miss R Stapley<br>BSc                                      | University<br>of Birmingham             | Investigating the role of SLFN14 in megakaryocyte and platelet biology. <i>3 years</i>                                                                                                         | £150,698 |
| FS/17/38/32935       | Miss Z Adams<br>BSc                                        | University<br>of Bristol                | Sex differences in the role of sympathetic nerve activity in the development of hypertension in humans. <i>3 years</i>                                                                         | £107,372 |
| FS/17/46/33121       | <b>Miss L Reolizo</b><br>BSc                               | University<br>of Bristol                | Exploiting the inhibition of vascular smooth muscle cell proliferation and intimal thickening by PRH/HHEX. <i>3 years</i>                                                                      | £107,340 |
| FS/17/42/32978       | <b>Ms A Rioja</b><br>BSc MSc                               | University<br>of Bristol                | Mechanisms of neovascularisation: signalling from VEGFR1 to the cytoskeleton through RhoA. <i>3 years</i>                                                                                      | £107,413 |
| FS/18/7/33697        | Student to<br>be appointed<br>(Supervisor: Dr A<br>Harper) | University<br>of Cambridge              | Joint NC3Rs/BHF PhD Studentship: Recreating thrombosis models using tissue-engineered arterial constructs: a novel method to reduce and replace mice used in platelet research. <i>3 years</i> | £90,000  |
| FS/17/32/32916       | Mr S Ahmed<br>BSc                                          | University<br>of East Anglia            | Does enhanced smooth muscle cell contraction increase local matrix stiffness and promote smooth muscle cell proliferation? <i>3 years</i>                                                      | £105,522 |
| FS/17/27/32698       | Miss R Sanders<br>BSc MRes MPhil                           | University<br>of Edinburgh              | Assessing the regulation and function of long non-coding RNA LINC00961 in vascular endothelial cell function. <i>3 years</i>                                                                   | £107,498 |
| FS/18/10/33413       | <b>Ms F Vacante</b><br>BSc MSc                             | University<br>of Edinburgh              | The functional consequence of miR-143HG loss on the development of atherosclerosis. <i>1 year, 9 months</i>                                                                                    | £67,715  |
| FS/17/43/33003       | Miss K Miteva                                              | University<br>of Leeds                  | The role of Ca <sup>2+</sup> signalling in the regulation of Weibel-Palade Body trafficking and cargo secretion. <i>3 years</i>                                                                | £107,808 |
| FS/17/30/32832       | <b>Mr B Roper</b><br>MBiolSci                              | University<br>of Leeds                  | Targeting the LOX-1 (SR-E1) scavenger receptor and atherosclerosis using synthetic proteins called Affimers. <i>3 years</i>                                                                    | £107,879 |
| FS/17/45/33102       | Miss R Dinsdale                                            | University<br>of Oxford                 | Understanding the molecular pharmacology of vascular calcium-activated chloride channels. <i>3 years</i>                                                                                       | £114,803 |

PhD Studentships (continued)

| PhD Studentships | (continued)                                                 |                            |                                                                                                                                                                      |          |
|------------------|-------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| FS/17/31/32848   | <b>Ms G Little</b><br>BSc                                   | University<br>of Reading   | Study of the molecular mechanisms that allow the collagen-binding chaperone protein HSP47 to modulate platelet responses to collagen. <i>3 years</i>                 | £116,868 |
| FS/18/6/33696    | Student to be<br>appointed<br>(Supervisor: Prof<br>P Evans) | University<br>of Sheffield | Joint NC3Rs/BHF PhD Studentship: Using zebrafish embryos to identify genes that protect against atherosclerosis. <i>3 years</i>                                      | £90,000  |
| FS/17/33/32931   | <b>Mr R Johnson</b><br>BSc MBiol                            | University of Surrey       | Investigating arrhythmogenic risk from cardiac cell therapy; scrutinising the effects of human myofibroblasts on iPSC-derived cardiomyocyte function. <i>3 years</i> | £107,854 |
| Clinical Fellow  | vships                                                      |                            |                                                                                                                                                                      |          |

Research Grant Awards 2017/18

| Intermediate Clinic | Dr M Fontana PhD University College London University College PhD University Dr M Bailey BSc PhD MB ChB PG Cert (Health Research) MRCS Dr A Jones BSc BM PhD University Of Oxford Dr M Holmes BSc MBBS MRCP MSc PhD University Of Oxford Dr M Holmes BSc MBBS MRCP MSc PhD University Of Oxford Dr M Holmes BSc MBBS MRCP MSc PhD University Of Oxford Dr M Holmes BSc MBBS MRCP MSc PhD University Of Oxford Drug target validation and risk prediction for coronary heart disease using targeted blood-based metabolomics and proteomics.  5 years  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044  £717,044 |                            |                                                                                   |            |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------|------------|
| Reference number    | Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Institution                | Grant title                                                                       | Total      |
| FS/18/21/33447      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | , ,                        | phenotypic spectrum and clinical significance.                                    | £717,044   |
| FS/18/12/33270      | BSc PhD MB ChB<br>PG Cert (Health                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ,                          |                                                                                   | £515,929   |
| FS/18/22/33479      | ,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ,                          |                                                                                   | £763,253   |
| FS/18/23/33512      | BSc MBBS MRCP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ,                          | coronary heart disease using targeted blood-based metabolomics and proteomics.    | £1,026,833 |
| FS/18/13/33281      | Dr R Thompson<br>BMedSci MB ChB<br>MRCP (UK) PhD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | University<br>of Sheffield | The role of double-stranded RNA in pulmonary vascular remodelling. <i>4 years</i> | £722,505   |

| Reference number | Name                                   | Institution                            | Grant title                                                                                                                                      | Total    |
|------------------|----------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| FS/18/15/33518   | <b>Dr J Kelly</b><br>BSc MBChB<br>MRCS | King's College<br>London               | The role of inflammation in the development of spinal cord ischaemia after thoracoabdominal aneurysm repair. 2 years                             | £144,900 |
| FS/17/77/33128   | Dr F Papalia<br>BMedSci MBBS           | King's College<br>London               | Iron status and cardiac mechano-energetics in heart failure. <i>3 years</i>                                                                      | £226,286 |
| FS/18/16/33396   | <b>Dr M Ryan</b><br>BSc MBChB MRCP     | King's College<br>London               | Evaluation of a novel physiological biomarker of hibernation in ischaemic left ventricular dysfunction. 3 years                                  | £245,683 |
| FS/17/81/33318   | Dr Z Raisi<br>Estabragh                | Queen Mary,<br>University of<br>London | Broken bones and broken hearts: relationships<br>between osteoporosis and cardiovascular structure<br>and function in UK Biobank. <i>3 years</i> | £231,716 |

| EC /17 /00 /00000 | B B I I                                       |                              | TI                                                                                                                                                                                                                                               | 0005 705 |
|-------------------|-----------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| FS/17/82/33322    | Dr R Hughes                                   | University College<br>London | The extended spectrum of apical hypertrophic cardiomyopathy. 3 years                                                                                                                                                                             | £225,735 |
| FS/17/34/32901    | Dr K Knott<br>MA MBBS MRCP                    | University College<br>London | Perfusion mapping in ischaemic heart disease.  3 years                                                                                                                                                                                           | £206,139 |
| FS/18/18/33522    | <b>Dr T Hinton</b><br>BMedSci MBChB<br>MRCP   | University<br>of Bristol     | Investigating the role of the carotid body in young onset hypertension. 2 years                                                                                                                                                                  | £116,203 |
| FS/17/49/32917    | <b>Dr K Hope</b><br>BM BS BMedSci<br>MSc FRCA | University<br>of Bristol     | Comparing the mechanistic role of carotid bodies in human heart failure with and without preserved ejection fraction. <i>3 years</i>                                                                                                             | £220,320 |
| FS/17/51/33096    | Dr J Andrews<br>MBChB<br>MRCP                 | University<br>of Edinburgh   | Early clinical development of a thrombus <sup>18</sup> F-radiotracer. <i>3 years</i>                                                                                                                                                             | £168,504 |
| FS/17/79/33226    | Dr M Doris<br>MBChB                           | University<br>of Edinburgh   | Combined positron emission tomography and magnetic resonance imaging of coronary atherothrombosis. <i>1 year</i>                                                                                                                                 | £120,628 |
| FS/17/50/33061    | Mr J Kaczynski                                | University<br>of Edinburgh   | <sup>18</sup> F-fluoride positron emission tomography-<br>magnetic resonance imaging in patients with acute<br>neurovascular syndrome. <i>2 years</i>                                                                                            | £293,665 |
| FS/18/25/33454    | <b>Dr K Lee</b><br>MBChB MRCP                 | University<br>of Edinburgh   | High-sensitivity cardiac troponin I and risk stratification of patients with suspected acute coronary syndrome. <i>3 years</i>                                                                                                                   | £263,693 |
| FS/17/53/33119    | <b>Dr T Moullaali</b><br>MBBS                 | University<br>of Edinburgh   | Does blood pressure variability (BPV) affect outcome after stroke due to intracerebral haemorrhage?. 3 years                                                                                                                                     | £168,553 |
| FS/18/14/33330    | <b>Dr A Jackson</b><br>BSc MBChB              | University<br>of Glasgow     | The epidemiology of peripartum cardiomyopathy in a Western European country: an analysis of the Scottish population 1990-2016. <i>3 years</i>                                                                                                    | £186,095 |
| FS/17/78/33180    | Dr T Slater<br>MMBS MRCP                      | University<br>of Leeds       | Examining the effect of increasing endothelial cell insulin like growth factor-1 receptor expression in the endothelium on blood pressure homeostasis and endothelial cell function in health and diet induced type 2 diabetes mellitus. 3 years |          |
| FS/18/26/33501    | Dr L Athithan<br>MBBCh MRCP                   | University<br>of Leicester   | Cardiac rest and stress metabolism in patients with type 2 diabetes. <i>2 years, 6 months</i>                                                                                                                                                    | £136,122 |
| FS/17/54/33126    | <b>M</b> r <b>N</b> Denham<br>BMBM            | University<br>of Manchester  | An experimental study regarding the effectiveness of PDE5 inhibition to prevent atrial fibrillation.  3 years                                                                                                                                    | £238 301 |
| FS/17/47/32805    | Dr J Lagan<br>MA MRCP AFHEA                   | University of Manchester     | Why is COPD associated with heart failure? 2 years                                                                                                                                                                                               | £126,854 |

| Clinical Research | Clinical Research Training Fellowships (continued) |                             |                                                                                                                                                              |          |
|-------------------|----------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| FS/17/52/33113    | Dr C Pius<br>MBChB                                 | University of<br>Manchester | An experimental study on the impact of myocyte ultrastructural remodelling on cellular function and arrhythmogenesis following an ischaemic episode. 3 years | £271,190 |
| FS/17/80/33317    | Dr S Lockhart                                      | University<br>of Oxford     | Examining the direct vascular actions of the glucagon-like peptide-1 analogue liraglutide in obese patients with coronary atherosclerosis.  3 years          | £200,411 |
| FS/18/17/33514    | Dr S Monga<br>MBChB MMed<br>MRCP DPhil             | University<br>of Oxford     | The effect of altering myocardial lipid content on cardiac physiology in patients with aortic stenosis. 3 years                                              | £290,431 |
| FS/17/48/32907    | Dr W Watson<br>BSc MBBChir PGCert<br>(MedEd) MRCP  | University of Oxford        | Altering substrate selection as a potential therapeutic target in heart failure. <i>3 years</i>                                                              | £253,679 |

#### Regenerative Medicine Centres

| Reference number | Name                                   | Institution                | Grant title                                            | Total      |
|------------------|----------------------------------------|----------------------------|--------------------------------------------------------|------------|
| RM/17/1/33377    | <b>Prof S Harding</b><br>BSc PhD       | Imperial College<br>London | BHF Centre of Regenerative Medicine (renewal) 4 years  | £2,500,000 |
| RM/17/3/33381    | <b>Prof A Baker</b><br>BSc PhD         | University of<br>Edinburgh | BHF Centre of Regenerative Medicine (renewal)  4 years | £2,500,000 |
| RM/17/2/33380    | <b>Prof P Riley</b><br>BSc PhD FMedSci | University of Oxford       | BHF Centre of Regenerative Medicine (renewal) 4 years  | £2,500,000 |

#### Infrastructure Grants

| Reference number | Name                                                              | Institution                            | Grant title                                                                                                                                                                      | Total    |
|------------------|-------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| IG/17/2/32993    | <b>Prof S Nourshargh</b><br>BSc PhD FMedSci                       | Queen Mary,<br>University of<br>London | Funds towards the purchase of a multiphoton confocal microscope. <i>1 year</i>                                                                                                   | £314,211 |
| IG/18/2/33544    | Prof S Watson<br>BSc PhD FMedSci                                  | University of<br>Birmingham            | Funds towards six items of imaging equipment at<br>the Centre of Membrane Proteins and Receptors<br>(COMPARE) at the Universities of Birmingham and<br>Nottingham. <i>1 year</i> | £754,233 |
| IG/18/1/33458    | Prof D Newby<br>BA BSc PhD BM DM<br>DSc FRSE FESC FACC<br>FMedSci | University of<br>Edinburgh             | Funds to upgrade and expand a radiochemistry facility to deliver current and future cardiovascular PET research. <i>2 years</i>                                                  | £700,000 |
| IG/17/3/33201    | <b>Dr S Semple</b><br>BSc PhD MSc                                 | University of<br>Edinburgh             | Funds to upgrade a BHF-funded 3T magnetic resonance imaging scanner. <i>1 year</i>                                                                                               | £393,225 |

#### **Special Project Grants**

Listed alphabetically by Institute

| Reference Number<br>SP/18/6/33805 | Name<br>Dr S Niederer<br>DPhil                                    | Location The Alan Turing Institute and King's                  | Grant title The BHF-Turing Cardiovascular Data Science Awards (First call): Quantifying functional co-variation in                                                                                                          | <i>Total</i> £49,310 |
|-----------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
|                                   | Dim                                                               | College London                                                 | calcium handling proteins in cardiac myocytes (joint funding with The Alan Turing Institute). <i>1 year</i>                                                                                                                 |                      |
| SP/18/7/33806                     | Dr W Astle<br>MA MMath PhD                                        | The Alan Turing<br>Institute and<br>University of<br>Cambridge | The BHF-Turing Cardiovascular Data Science Awards (First call): Looking for cardiovascular risk factors in blood smear images (joint funding with The Alan Turing Institute). 1 year                                        | £47,362              |
| SP/18/5/33804                     | <b>Dr A Butterworth</b><br>BA PhD MSc                             | The Alan Turing<br>Institute and<br>University of<br>Cambridge | The BHF-Turing Cardiovascular Data Science<br>Awards (First call): Flexible fine-mapping of multiple<br>intermediate traits at cardiovascular disease loci<br>(joint funding with The Alan Turing Institute). <i>1 year</i> | £26,481              |
| SP/18/3/33801                     | Dr E Di Angelantonio<br>MD PhD MSc                                | The Alan Turing<br>Institute and<br>University of<br>Cambridge | The BHF-Turing Cardiovascular Data Science Awards (First call): Using machine learning for personalised CVD risk management (joint funding with The Alan Turing Institute). <i>1 year</i>                                   | £54,848              |
| SP/18/2/33800                     | Prof N Mills<br>MBChB BSc PhD<br>FESC FRCP                        | The Alan Turing<br>Institute and<br>University of<br>Edinburgh | The BHF-Turing Cardiovascular Data Science Awards (First call): Machine learning in myocardial infarction to improve risk prediction and inform treatment decisions (joint funding with The Alan Turing Institute). 1 year  | £80,529              |
| SP/18/4/33803                     | Dr A Doherty                                                      | The Alan Turing<br>Institute and<br>University of<br>Oxford    | The BHF-Turing Cardiovascular Data Science Awards (First call): Unsupervised learning of physical activity markers and their association with cardiovascular disease (joint funding with The Alan Turing Institute). 1 year | £68,524              |
| SP/17/11/32885                    | Prof S Cook<br>PhD MRCP                                           | Imperial College<br>London                                     | Defining the genetics, biomarkers and outcomes for dilated cardiomyopathy: a prospective multicentre study (GO-DCM). <i>4 years</i>                                                                                         | £1,999,834           |
| SP/17/10/33219                    | Prof M Mayr<br>MD PhD                                             | King's College<br>London                                       | ERA-CVD 'transnational research projects on cardiovascular diseases': non-coding RNAs in cardiac macrophages and their role in heart failure. 3 years                                                                       | £249,492             |
| SP/18/1/33797                     | Health Data<br>Research UK                                        | Medical Research<br>Council                                    | Joint funding towards Health Data Research UK (HDRUK) awards. <i>5 years</i>                                                                                                                                                | £2,000,000           |
| SP/17/9/33243                     | UK Prevention<br>Research<br>Partnership                          | Medical Research<br>Council                                    | Joint funding towards the National Prevention Research Initiative. <i>3 years</i>                                                                                                                                           | £3,000,000           |
| SP/17/12/32960                    | Prof D Newby<br>BA BSc PhD BM<br>DM DSc FRSE FESC<br>FACC FMedSci | University of<br>Edinburgh                                     | Duration of dual anti-platelet therapy in acute coronary syndrome across Scotland: the DUAL-ACS2 trial. <i>5 years</i>                                                                                                      | £630,845             |

| Special Project Gra | nts (continued)                                   |                              |                                                                                                                                                                                           |            |
|---------------------|---------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| SP/18/8/33620       | <b>Dr T Webb</b><br>BSc MRes PhD                  | University of<br>Leicester   | ERA-CVD 'transnational research projects on cardiovascular diseases': druggable MI genes: utilising myocardial infarction genes for better treatment. <i>3 years</i>                      | £249,829   |
| SP/17/15/33490      | Dr P Quinlan                                      | University of<br>Nottingham  | Joint funding with MRC: UKCRC Tissue Directory and Coordination Centre Phase II. 3 years                                                                                                  | £75,000    |
| SP/17/16/33519      | Prof K Channon<br>MD FRCP FMedSci                 | University of<br>Oxford      | The NIHR-BHF Cardiovascular Partnership.  3 years                                                                                                                                         | £112,705   |
| SP/17/13/33347      | Prof R McManus<br>MSc MA (Oxon)<br>PhD MBBS FRCGP | University of<br>Oxford      | Seventh Joint Stroke Association/BHF Grant:<br>Towards An Integrated Self-Monitoring SolutIoN<br>for Stroke/TIA: TASMIN5S (Ninth call). <i>5 years</i>                                    | £1,109,564 |
| SP/17/14/33355      | <b>Dr H Gallagher</b><br>MA MSc PhD FRCP          | University of<br>Southampton | Joint funding with NIHR (Health Technology<br>Assessment (HTA) Programme): Aspirin To Target<br>Arterial events in Chronic Kidney disease – the<br>ATTACK trial. <i>7 years, 6 months</i> | £750,000   |
| Clinical Stu        | dy Grants                                         |                              |                                                                                                                                                                                           |            |
| Listed alphabetical |                                                   |                              |                                                                                                                                                                                           |            |
| Reference Number    | Name                                              | Location                     | Grant title                                                                                                                                                                               | Total      |
| CS/17/6/33361       | Prof D Werring<br>BSc MBBS FRCP PhD               | University College<br>London | OPTIMAS: OPtimal TIMing of Anticoagulation after AF-associated acute ischaemic Stroke: a randomised controlled trial. <i>5 years</i>                                                      | £2,045,998 |
| CS/17/4/33009       | Dr R Gardner<br>MBChB MD<br>MRCP FESC             | University of<br>Glasgow     | How do arrhythmias and conduction disturbances contribute to death or rehospitalisation in patients discharged following an admission with acute heart failure?                           | £429,737   |

#### **Programme Grants**

Prof T Robinson MD FRCP FESO

AFHEA

CS/17/5/32826

Listed alphabetically by Institute

| Reference number | Name                           | Institution                | Grant title                                                                                                        | Total      |
|------------------|--------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------|------------|
| RG/18/3/33405    | <b>Dr J Crawley</b><br>BSc PhD | 1                          | Protein S-TFPI anticoagulant pathway: molecular mechanisms and therapeutic potential. <i>5 years</i>               | £1,271,273 |
| RG/17/13/33173   | Prof J Gorelik<br>MSc PhD      |                            | Function follows form: improving the failing heart by targeting signalling nanodomains in myocytes. <i>5 years</i> | £1,081,461 |
| RG/18/4/33541    | Prof J Mitchell<br>BSc PhD     | Imperial College<br>London | Understanding the COX-2/prostacyclin/NO axis in the cardiovascular system. 5 years                                 | £995,313   |

University of

Leicester

failure? A prospective, observational, multi-centre cohort study. *4 years*, *6 months* 

Tenecteplase in Wake-up Ischaemic Stroke Trial (TWIST). *3 years* 

£323,014

| Programme Gran | ts (continued)                                                    |                             |                                                                                                                                                                                  |            |
|----------------|-------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| RG/17/16/33294 | Prof P Eaton<br>BSc PhD                                           | King's College<br>London    | Furthering our understanding of PKGIa in cardiovascular health and disease. <i>5 years</i>                                                                                       | £999,700   |
| RG/17/15/33106 | Prof M Shattock<br>BSc PhD FRCP (Edin)                            | King's College<br>London    | The Na/K ATPase in cardiovascular health and disease. <i>4 years</i>                                                                                                             | £1,199,974 |
| RG/17/7/33217  | Prof P Mortimer<br>MD FRCP                                        | Medical Research<br>Council | Joint funding with MRC: Deep phenotyping to improve understanding of causal mechanisms and underlying gene mutations in primary lymphoedema and lymphatic malformations. 5 years | £750,000   |
| RG/17/5/32936  | Dr S Sinha<br>BA MB BChir<br>MRCP PhD                             | University<br>of Cambridge  | New therapeutic strategies for Marfan and other genetically-triggered aortic aneurysm syndromes. 5 years                                                                         | £1,271,390 |
| RG/17/8/32924  | Prof D Giussani<br>MA PhD ScD<br>FRCOG                            | University<br>of Cambridge  | Cardiovascular dysfunction in the hypoxic fetus: intervention by mitochondria-targeted antioxidants. (Renewal). <i>5 years</i>                                                   | £1,311,663 |
| RG/17/12/33167 | Prof S Ozanne<br>BSc Hons PhD                                     | University<br>of Cambridge  | Insulin and hypoxia: key determinants in the programming of cardiovascular disease by maternal obesity. <i>5 years</i>                                                           | £1,103,850 |
| RG/17/11/33042 | Prof D Beech<br>BSc PhD FMedSci                                   | University of Leeds         | Endothelial Piezo1 channel in whole body physical activity and cardio-metabolic protection. <i>5 years</i>                                                                       | £1,383,429 |
| RG/17/9/32812  | Prof G Murphy<br>BSc MBChB MD<br>FRCS                             | University<br>of Leicester  | Towards the prevention of post cardiac surgery organ failure. <i>5 years</i>                                                                                                     | £1,399,996 |
| RG/18/2/33392  | Prof M Boyett<br>BSc PhD FRSB FRCP                                | University of<br>Manchester | Control of ion channel expression in the cardiac conduction system in disease: search for potential new therapeutic targets. (Renewal). 5 years                                  | £1,316,626 |
| RG/18/1/33351  | Prof S Bhattacharya<br>MBBS MD MRCP<br>MSc FESC FMedSci           | University<br>of Oxford     | Precision therapeutics for cardiovascular inflammation. <i>5 years</i>                                                                                                           | £1,004,873 |
| RG/17/10/32859 | Prof K Channon<br>MD FRCP FMedSci                                 | University<br>of Oxford     | Non-canonical roles for tetrahydrobiopterin in cardiovascular disease pathogenesis. <i>5 years</i>                                                                               | £1,399,658 |
| RG/17/14/33085 | Prof D Paterson<br>MA MSc DPhil DSc<br>FRSB FPhysiol Hon<br>FRSNZ | University<br>of Oxford     | Cyclic nucleotide coupled phosphodiesterase signalling in cardiac sympathetic neurons in heart disease: novel therapeutic targets. <i>3 years</i>                                | £617,619   |
| RG/18/5/33532  | Prof P Riley<br>BSc PhD FMedSci                                   | University<br>of Oxford     | Epicardial activation and signalling during cardiovascular repair: comparing regenerative and non-regenerative models: programme extension. (Renewal). <i>3 years</i>            | £588,176   |
| RG/17/6/32944  | Prof M Zaccolo<br>MD                                              | University<br>of Oxford     | Topography, regulation and function of PDE-dependent cAMP nanodomains in cardiac myocytes. (Renewal). <i>5 years</i>                                                             | £1,226,593 |

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#### **New Horizons Grants**

| Reference number | Name                                     | Institution                  | Grant title                                                                                                              | Total    |
|------------------|------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------|
| NH/18/1/33511    | Dr V Muthurangu<br>BSc MD(Res)<br>MRCPCH | University College<br>London | Towards comprehensive assessment of heart disease in children using real-time cardiovascular magnetic resonance. 2 years | £291,881 |

#### **Translational Awards**

Listed alphabetically by Institute

| Reference number | Name                                         | Institution                 | Grant title                                                                                                                                                                   | Total         |
|------------------|----------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| TG/16/2/32657    | Prof P Chowienczyk<br>BSc MBBS FRCP          | King's College<br>London    | First-phase ejection fraction as a diagnostic marker and therapeutic target in cardiac disease. 2 years                                                                       | £146,961      |
| TG/16/1/32108    | <b>Dr P Lamata</b><br>PhD                    | King's College<br>London    | Improving the identification of faulty valves. 2 years                                                                                                                        | £245,076      |
| TG/16/3/32687    | <b>Dr G Gray</b><br>BSc PhD FBPhS<br>FRSB    | University<br>of Edinburgh  | 11BHSD1 inhibition: a distinctive acute-MI intervention for promotion of peri-infarct vascularisation reduction of infarct expansion and prevention of heart failure. 2 years | £318,737<br>, |
| TG/16/3/32687    | <b>Dr D Adlam</b><br>BA BM BCh DPhil<br>FRCP | University<br>of Leicester  | Development of a prototype pericardial left ventricular assist device. <i>2 years</i>                                                                                         | £249,771      |
| TG/16/3/32687    | <b>Dr L Ebah</b><br>MD MRCP PhD              | University<br>of Manchester | Transdermal Fluid Removal (TFR): a novel community-based and patient self-administered treatment for fluid overload in heart failure.  2 years                                | £134,293      |

#### **Project Grants**

Listed alphabetically by Institute

| Reference number | Name                                   | Institution                | Grant title                                                                                                                                                           | Total    |
|------------------|----------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| PG/18/15/33566   | <b>Dr J Ahnstrom</b><br>BSc MSc PhD    | Imperial College<br>London | Regulation of versican procoagulant role by ADAMTS-mediated proteolysis. $\emph{3 years}$                                                                             | £223,603 |
| PG/17/33/32990   | <b>Dr G Birdsey</b><br>BSc PhD         | Imperial College<br>London | VEGF-dependent angiogenesis requires activation of specific isoforms of the ETS transcription factor ERG. <i>1 year</i> , <i>6 months</i>                             | £130,472 |
| PG/18/3/33515    | Dr A Bottle<br>BSc (Hons) MSc<br>PhD   | Imperial College<br>London | Using large databases to describe the current management of heart failure in England and model risk trajectories to improve shared decision-making. 2 years, 6 months |          |
| PG/17/71/33242   | Dr J Boyle<br>BSc MBChB<br>PhD FRCPath | Imperial College<br>London | Development of a fluorescent reporter probe for enzyme-activity of heme oxygenase 1 (HO-1).  2 years, 3 months                                                        | £213,438 |

| Project Grants (co | ontinued)                                     |                            |                                                                                                                                                                                              |          |
|--------------------|-----------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| PG/17/22/32868     | <b>Prof J Crawley</b><br>BSc PhD              | Imperial College<br>London | The role of VWF-dependent platelet 'priming' and neutrophil recruitment in DVT. 2 years                                                                                                      | £196,861 |
| PG/18/17/33572     | <b>Dr J Crawley</b><br>BSc PhD                | Imperial College<br>London | The structural basis of ADAMTS13 allostery. 2 years, 6 months                                                                                                                                | £294,048 |
| PG/18/19/33584     | <b>Dr R de Groot</b><br>BSc MSc PhD           | Imperial College<br>London | ADAMTS7 and cardiovascular disease: identifying molecular mechanisms. 2 years                                                                                                                | £180,799 |
| PG/17/81/33345     | Dr J Keegan<br>BSc MSc PhD                    | Imperial College<br>London | Arrhythmia insensitive whole-heart late gadolinium enhancement (LGE) MRI for assessment of native, surgical and post-ablation scar tissue in patients with heart rhythm disturbance. 3 years | £239,908 |
| PG/17/57/33130     | Dr N Latif<br>BSc PhD                         | Imperial College<br>London | Role of the mechanosensitive ion channel Piezol in human valve endothelial cells. 2 years                                                                                                    | £126,567 |
| PG/17/42/33039     | Dr I Salles-Crawley<br>BSc MSc PhD            | Imperial College<br>London | BAMBI and its role in the anticoagulant function of the endothelium. <i>1 year</i>                                                                                                           | £97,016  |
| PG/17/61/33187     | Prof C Terracciano<br>MD PhD                  | Imperial College<br>London | Mechanosensitive molecular mechanisms of myocardial fibrosis: a multicellular approach. <i>1 year, 6 months</i>                                                                              | £97,140  |
| PG/17/60/33168     | Dr S Wort<br>MA (Oxon) MBBS<br>FRCP PhD FFICM | Imperial College<br>London | The role of H3K27 methylation in vascular endothelial cell proliferation and function: implications for pulmonary arterial hypertension.  2 years                                            | £193,282 |
| PG/18/2/33446      | Prof L Zhao<br>MD PhD                         | Imperial College<br>London | Investigation of selective HDAC6 inhibitor, C1A, as a treatment for pulmonary arterial hypertension. 2 years                                                                                 | £164,885 |
| PG/17/38/33024     | <b>Dr S Chapple</b><br>BSc PhD                | King's College<br>London   | Activation of Nrf2 antioxidant defences by sulforaphane confers vascular protection in offspring exposed to a maternal obesogenic diet. 3 years                                              | £240,505 |
| PG/17/50/32903     | Prof P Chowienczyk<br>BSc MBBS FRCP           | King's College<br>London   | Partitioning the determinants of pulse pressure into those due to ventricular ejection and characteristics of the arterial tree. <i>3 years</i>                                              | £275,269 |
| PG/17/44/33064     | Prof P Eaton<br>BSc PhD                       | King's College<br>London   | An investigation of the potential therapeutic effects of Sulforadex in Noonan syndrome. <i>3 years</i>                                                                                       | £290,749 |
| PG/17/65/33215     | <b>Dr T Kampourakis</b><br>PhD Dipl           | King's College<br>London   | Cardiac thick filament modulators: a potential new class of heart failure therapeutics. <i>1 year, 3 months</i>                                                                              | £145,956 |
| PG/17/37/33023     | <b>Dr A Kapustin</b><br>BSc PhD               | King's College<br>London   | KLF4 regulates VSMC migration and proliferation via exosomes. <i>1 year, 6 months</i>                                                                                                        | £131,410 |
| PG/17/79/33313     | Dr J Liu<br>AB PhD                            | King's College<br>London   | Functional characterisation of the human congenital heart disease gene RAPGEF5. <i>1 year</i>                                                                                                | £76,615  |

| Project Grants (co | ontinued)                                                |                                          |                                                                                                                                                                                            |          |
|--------------------|----------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| PG/17/53/33079     | <b>Prof G Lombardi</b><br>BSc PhD                        | King's College<br>London                 | Targeting recipient antigen-presenting cells with sialic acid-modified alloantigen to promote transplantation tolerance. <i>3 years</i>                                                    | £269,742 |
| PG/17/48/32956     | Prof M Mayr<br>MD PhD                                    | King's College<br>London                 | AortOMICS: proteomics-based assessment of thoracic aneurysm formation. <i>3 years</i>                                                                                                      | £238,948 |
| PG/18/6/33530      | <b>Dr M Pfuhl</b><br>PhD                                 | King's College<br>London                 | Dissecting the activation mechanism of titin kinase by NMR spectroscopy. <i>3 years</i>                                                                                                    | £278,787 |
| PG/17/51/32950     | Dr M Robson<br>MRCP PhD                                  | King's College<br>London                 | Novel pathways involving ANCA and monocytes in ANCA vasculitis. <i>3 years</i>                                                                                                             | £292,415 |
| PG/17/52/33059     | <b>Dr W Wong</b><br>BSc MBBS MRCP<br>DPhil               | King's College<br>London                 | Prolonging cardiac allograft survival by targeting the indirect antigen presentation pathway with an immunotoxin. 2 years                                                                  | £246,748 |
| PG/17/39/33027     | <b>Dr M Zhang</b><br>MD PhD                              | King's College<br>London                 | The modulation of cAMP/PKA signalling by cardiac NOX2. <i>3 years</i>                                                                                                                      | £232,715 |
| PG/17/67/33218     | <b>Dr S White</b><br>BSc DPhil                           | Manchester<br>Metropolitan<br>University | Defining the mechanisms of normal and pathological force sensing by endothelial cell adhesion complexes. 3 years                                                                           | £234,445 |
| PG/17/36/33021     | Prof R Corder<br>BSc MSc PhD<br>MRPharmS                 | Queen Mary,<br>University of<br>London   | Identification of the constitutive, secretory-pathway, endothelin-converting enzyme. 2 years                                                                                               | £132,151 |
| PG/17/82/33368     | Dr L Green<br>MBBS MSc (HRM)<br>MD (Res) FRCP<br>FRCPath | Queen Mary,<br>University of<br>London   | A pragmatic pilot randomised control trial of prothrombin complex concentrates versus fresh frozen plasma in adult patients who are undergoing heart surgery (PROPHESY). 2 years, 3 months | £170,929 |
| PG/17/74/33111     | <b>Prof A Hobbs</b><br>BSc PhD                           | Queen Mary,<br>University<br>of London   | Defining a pivotal role for endothelium-derived C-type natriuretic peptide in angiogenesis and vascular remodelling. <i>3 years</i>                                                        | £245,430 |
| PG/17/85/33395     | Prof S Nourshargh<br>BSc PhD FMedSci                     | Queen Mary,<br>University<br>of London   | Impact of mast cells on neutrophil-pericyte interactions and neutrophil effector functions: role of IL-17A?. <i>3 years</i>                                                                | £238,442 |
| PG/17/41/33038     | <b>Dr D Przulj</b><br>PhD                                | Queen Mary,<br>University<br>of London   | Time-restricted eating as a weight loss intervention in obese adults: a pilot study. <i>1 year</i>                                                                                         | £61,574  |
| PG/17/59/33139     | Prof A Tinker<br>BA MB BS FRCP<br>PhD FMedSci            | Queen Mary,<br>University<br>of London   | Ric8b: a modulator of heterotrimeric G-protein signalling and its role in cardiovascular physiology. 2 years                                                                               | £143,054 |
| PG/17/40/33028     | <b>Prof T Warner</b><br>BSc PhD                          | Queen Mary,<br>University<br>of London   | Re-evaluating the effects of aspirin on the cardiovascular system. <i>3 years</i>                                                                                                          | £239,026 |
| PG/17/91/33428     | <b>Dr C Watson</b><br>BSc PhD PGDip<br>UT&L              | Queen's University<br>Belfast            | Investigating the role of tetranectin in cardiac remodelling and its utility as a heart failure biomarker. 3 years                                                                         | £242,517 |

Research Grant Awards 2017/18

| Project Grants (co | ontinued)                                    |                               |                                                                                                                                                                                                                                         |          |
|--------------------|----------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| PG/18/21/33599     | <b>Dr C Watson</b><br>BSc PhD PGDip<br>UT&L  | Queen's University<br>Belfast | Epigenetic changes in hypoxic cardiac fibroblasts: implications for DNA methylation in the pathogenesis of ischaemic heart disease. <i>2 years</i>                                                                                      | £153,454 |
| PG/18/10/33550     | <b>Dr R Bell</b><br>BSc PhD MBBS<br>MRCP     | University College<br>London  | Sodium / glucose transporters in the heart and their role in hyperglycaemic exacerbation of ischaemia / reperfusion injury following acute myocardial infarction. 3 years                                                               | £283,777 |
| PG/17/88/33401     | Dr K Brown<br>BA MB BChir<br>MRCP MSC MD     | University College<br>London  | Using National Congenital Heart Diseases Audit data to explore the impact of non-medical risk factors on late post-operative outcomes for children with complex congenital heart defects. <i>3 years</i>                                | £289,840 |
| PG/17/90/33415     | Prof A Hughes<br>BSc MBBS PhD                | University College<br>London  | Cardiovascular mechanisms linked to cerebral amyloid<br>$\beta$ deposition and cognitive decline: a sub study of<br>INSIGHT 46. 2 years, 6 months                                                                                       | £273,844 |
| PG/17/47/32963     | Dr V Muthurangu<br>BSc MD (Res)<br>MRCPCH    | University College<br>London  | Harnessing the potential of magnetic resonance augmented cardiopulmonary exercise testing (MR-CPET) in pulmonary arterial hypertension. <i>3 years</i>                                                                                  | £211,432 |
| PG/17/70/33232     | <b>Prof C Ruhrberg</b><br>PhD                | University College<br>London  | VEGF signalling pathways in vascular permeability.  1 year                                                                                                                                                                              | £120,360 |
| PG/18/22/33604     | <b>Dr K Sutcliffe</b><br>BA MSc PhD          | University College<br>London  | Children's and parents' informed and willing consent to heart surgery. <i>1 year, 6 months</i>                                                                                                                                          | £112,707 |
| PG/17/20/32864     | <b>Prof I Zachary</b><br>BSc PhD             | University College<br>London  | Role of Bcarl/p130Cas in heart development.  3 years                                                                                                                                                                                    | £245,846 |
| PG/17/87/33400     | <b>Prof I Zachary</b><br>BSc PhD             | University College<br>London  | Investigation of the role of Bcarl/pl30Cas in atherosclerosis. <i>2 years</i>                                                                                                                                                           | £187,454 |
| PG/17/64/33205     | Dr D Dawson<br>DM FRCP DPhil<br>FESC         | University<br>of Aberdeen     | A randomised, double-blind placebo controlled trial to test if a beneficial effect of beta-blockers on exacerbations of chronic obstructive pulmonary disease (COPD) is restricted to those patients with occult heart disease. 3 years | £299,169 |
| PG/17/30/32961     | Prof Dr P Kirchhof<br>MD FESC FRCP<br>(Edin) | University<br>of Birmingham   | Impact of chronic intermittent hypoxia on atrial resting membrane potential and Na $^{\rm V}$ 1.5 channel function: a new mechanism for causing atrial fibrillation. 3 years                                                            | £203,196 |
| PG/17/55/33087     | <b>Dr D Pavlovic</b><br>BSc DPhil FHEA       | University<br>of Birmingham   | Cardiotonic steroids in patients with atrial fibrillation and heart failure: quantification, functional effects and personalisation of digoxin therapy. 2 years                                                                         | £172,818 |
| PG/17/34/32996     | <b>Dr M Bond</b><br>BSc PhD                  | University<br>of Bristol      | Nuclear action dynamics and vascular cell behaviour.  3 years                                                                                                                                                                           | £190,161 |
| PG/17/66/33216     | <b>Prof S George</b><br>BSc PhD              | University<br>of Bristol      | Attenuation of intimal thickening via porcupine inhibition. <i>3 years</i>                                                                                                                                                              | £140,074 |

| Project Grants (co | ontinued)                                                  |                              |                                                                                                                                                              |          |
|--------------------|------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| PG/17/89/33414     | Prof J Hancox<br>BSc PhD FRSB<br>FBPhS                     | University<br>of Bristol     | Drug-induced hERG potassium channel inhibition: novel access and binding determinants? <i>3 years</i>                                                        | £207,792 |
| PG/17/75/33095     | <b>Prof P Madeddu</b><br>MD                                | University<br>of Bristol     | Investigation of a novel proangiogenic mechanism centred on miR-532, BACH1, angiopoietin-1 and Notch/Dll4 in human pericytes. <i>2 years</i>                 | £148,688 |
| PG/17/62/33190     | <b>Prof S Mundell</b><br>BSc PhD                           | University<br>of Bristol     | Regulation of P2Y12 receptor expression and activity by inhibitory pathways in human platelets: a novel mode of action of antiplatelet drugs? <i>3 years</i> | £202,332 |
| PG/18/8/33540      | <b>Dr A Teschemacher</b><br>MSc PhD                        | University<br>of Bristol     | Development of a strategy to limit lactate-mediated sympathoexcitation. <i>1 year, 8 months</i>                                                              | £117,734 |
| PG/18/14/33562     | Prof M Bennett<br>BSc MBChB PhD<br>MA FRCP FAHA<br>FMedSci | University<br>of Cambridge   | Development of 3D finite element analysis and imaging to predict human atherosclerotic plaque instability. <i>3 years</i>                                    | £246,185 |
| PG/17/45/33071     | <b>Dr M Harper</b><br>MA PhD                               | University<br>of Cambridge   | The role of the mitochondrial permeability transition pore in procoagulant platelets. 2 years                                                                | £164,274 |
| PG/17/58/33134     | <b>Dr W Li</b><br>BSc PhD                                  | University<br>of Cambridge   | Role of BMP9 in protecting pulmonary vascular integrity: implication in sepsis and acute respiratory distress syndrome (ARDS). <i>2 years</i>                | £136,266 |
| PG/17/69/33229     | Dr X Li<br>MD PhD                                          | University<br>of Cambridge   | Investigating the role of PLK1 in regulating inflammation. 2 years                                                                                           | £182,399 |
| PG/18/20/33595     | Prof Z Mallat<br>MD PhD                                    | University<br>of Cambridge   | Regulatory pathways that control Type-2 innate lymphoid cells in atherosclerotic and ischaemic heart disease. <i>3 years</i>                                 | £284,752 |
| PG/17/73/33251     | <b>Dr M Nus</b><br>BSc PhD                                 | University<br>of Cambridge   | Targeting marginal zone B cells to protect against atherosclerosis. <i>3 years</i>                                                                           | £292,736 |
| PG/17/80/33343     | Dr K<br>O'Shaughnessy<br>MA BM BCh DPhil<br>FRCP FHEA      | University<br>of Cambridge   | The role of dietary potassium in regulating salt transport across the DCT in the kidney. 2 years                                                             | £166,513 |
| PG/17/24/32886     | <b>Dr S Sinha</b><br>BA MB BChir<br>MRCP PhD               | University<br>of Cambridge   | Heterogeneity of the human epicardium: molecular determinants and functional consequences.  2 years                                                          | £183,375 |
| PG/17/46/32880     | <b>Dr S Robinson</b><br>PhD                                | University<br>of East Anglia | Deciphering the angiogenic tug-of-war between neuropilin-1 interacting integrins: phase II. 2 years                                                          | £182,222 |
| PG/18/26/33589     | <b>Dr V MacRae</b><br>BSc PhD                              | University<br>of Edinburgh   | How does NPP1 ablation drive arterial calcification? 2 years                                                                                                 | £176,162 |

Research Grant Awards 2017/18

| ations in the<br>andomised controlled<br>based event recorder<br>s presenting to                              | £21,347                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| palpitations and                                                                                              |                                                                                                                                                                                                                             |
| tection of regional<br>ng positron emission<br>onths                                                          | £276,970                                                                                                                                                                                                                    |
| ivating protein ARAP3<br>permeability. <i>3 years</i>                                                         | £237,663                                                                                                                                                                                                                    |
| osity. <i>3 years</i>                                                                                         | £234,607                                                                                                                                                                                                                    |
| ation of cardiac<br>2 years                                                                                   | £117,375                                                                                                                                                                                                                    |
| a (CorMicA): a<br>d MRI sub-study.                                                                            | £297,478                                                                                                                                                                                                                    |
| tential of RUNX1<br>s                                                                                         | £285,403                                                                                                                                                                                                                    |
| an compared<br>emodelling in patients<br>ar systolic dysfunction<br>ndomised, double-<br>liac-MR based trial. | £292,604                                                                                                                                                                                                                    |
| tal 12-lead<br>y PCI era: mixed<br>6 months                                                                   | £196,500                                                                                                                                                                                                                    |
| mediator of 2 years                                                                                           | £128,308                                                                                                                                                                                                                    |
| on and remodelling<br>R4 axis. <i>3 years</i>                                                                 | £270,111                                                                                                                                                                                                                    |
| FXIII-A and defining<br>ars                                                                                   | £268,898                                                                                                                                                                                                                    |
| diffusion tensor                                                                                              | £185,541                                                                                                                                                                                                                    |
| it Y                                                                                                          | an compared amodelling in patients ar systolic dysfunction adomised, double-iac-MR based trial.  Ital 12-lead y PCI era: mixed 6 months  mediator of 2 years  In and remodelling R4 axis. 3 years  EXIII-A and defining ars |

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Project Grants

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Heart transplants. Clot-busting drugs. Pacemakers. Breakthroughs born from visionary medical research. Research you fund with your donations.

Heart and circulatory diseases kill 1 in 4 people in the UK. They cause heartbreak on every street. But if research can invent machines to restart hearts, fix arteries in newborn babies, build tiny devices to correct heartbeats, and give someone a heart they weren't born with – imagine what's next.

We fund research into all heart and circulatory diseases and their risk factors. Heart attacks, heart failure, stroke, vascular dementia, diabetes and many more. All connected, all under our microscope. Our research is the promise of future prevention, cures and treatments.

The promise to protect the people we love. Our children. Our parents. Our brothers. Our sisters. Our grandparents. Our closest friends.

You and the British Heart Foundation. Together, we will beat heartbreak forever.

Beat heartbreak from heart diseases stroke vascular dementia diabetes