

ANNUAL MEETING 2018

Queen's College • Cambridge, UK Thursday 6 – Friday 7 September

From the Vulnerable Plaque to the Vulnerable Patient

-FINAL PROGRAMME-

(the organisers reserve the right to change the programme)

Organised by: Professor Charalambos ANTONIADES and Dr Andrew SAGE

Accreditation: CPD to apply for

THURSDAY 6 SEPTEMBER:

08:00 - 09:00	Breakfast (Queens residents only)	Cripps Dining Hall
08:45 - 10:00	Registration	Fitzpatrick Foyer
08:45 - 10:00	Refreshments and Exhibition	Conservatory
10:00 - 10:10	Introduction and Welcome:	Fitzpatrick Hall
	Professor Manuel MAYR, Chairman, BAS	
Session 1: STUDYING THE MOLECULAR BASIS OF VULNERABLE PLAQUE		
	Chairpersons: Claudia MONACO, Helle JORGENSEN	
10:10 - 10:30	Macrophage transcriptomics in the study of unstable atherosclerotic plaque	
	Robin CHOUDHURY (Oxford)	
10:30 - 10:40	Discussion	
10:40 - 11:00	Genome wide association studies: new lessons and new targets	
	Nilesh SAMANI (Leicester)	
11:00 - 11:10	Discussion	
11:10 - 11.40	Refreshments and Exhibition	Conservatory
		conscivatory
Session 1: STUDY	ING THE MOLECULAR BASIS OF VULNERABLE PLAQUE	Fitzpatrick Hall
Session 1: STUDY	ING THE MOLECULAR BASIS OF VULNERABLE PLAQUE Chairpersons: Andrew SAGE, Robin CHOUDHURY	Fitzpatrick Hall
Session 1: STUDY 11:40 - 12:00	ING THE MOLECULAR BASIS OF VULNERABLE PLAQUE Chairpersons: Andrew SAGE, Robin CHOUDHURY Global Epigenetics of Atherosclerotic Smooth Muscle cells	Fitzpatrick Hall
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SINGLE CELL CHARACTERISATION OF ABDOMIAL AORTIC ANEURYSMS BY MASS CYTOMETRY (CYTOF) REVEALS A CHRONIC INFLAMMATORY CELL INFILTRATE PREDOMINATED BY T AND B CELLS

<u>Ismail Cassimiee</u>, Regent Lee, David Ahern, Patricia Green, Inhye Park, Ashok Handa, Claudia Monaco - On behalf of the Oxford Abdominal Aortic Aneurysm study investigators

Nuffield Department of Surgical Sciences, University of Oxford, John Radcliffe Hospital, OX39DU Discussion

13:40 – 13:45 Di 13:45 – 13:55 **2**

LOSS OF AUTOPHAGY IN DENDRITIC CELLS PROMOTES CD4⁺ TREG EXPANSION AND LIMITS THE DEVELOPMENT OF ATHEROSCLEROSIS IN MICE.

<u>M. Clément</u>, F. Lareyre, J. Raffort, S. Saveljeva, L. Masters, S. Newland, A. Finigan, J. Harrison, A. Kaser, Z. Mallat. From the Division of Cardiovascular Medicine (M.C., J.R., F.L., L.M., S.N., A.F., J.H., Z.M.) and Division of Gastroenterology and Hepatology (S.S., A.K.), University of Cambridge, Cambridge, UK, and Institut National de la Santé et de la Recherche Médicale, Universite Paris-Descartes, Paris Cardiovascular Research Center, and Université Paris-Descartes, Paris, France (Z.M.); Department of Vascular Surgery (F.L.) and Clinical Chemistry Laboratory (J.R.), University Hospital of Nice, and Université Côte d'Azur, Nice, France.

13:55 – 14:00 Discussion

13.33 - 14.00	Discussion
14:00 - 14:10 14:10 - 14:15	3 MMP12 INHIBITION PROTECTS AGAINST ABDOMINAL AORTIC ANEURYSM PROGRESSION K. Di Gregoli*, SJ. George, V. Dive and JL. Johnson Laboratory of Cardiovascular Pathology, School of Clinical Sciences, Faculty of Health Sciences, University of Bristol, Bristol, UK Discussion
14:15 – 14:25	4 UNDERSTANDING THE ROLE OF INTERFERON REGULATORY FACTOR 8 ON ATHEROSCLEROSIS PROGRESSION Louie R*, Gage M.C, Pineda-Torra I Centre of Clinical Pharmacology and Therapeutics, Division of Medicine, Rayne Institute, University College London, 5 University Street, London, WC1E 6JF
14:25 - 14:30	Discussion
14:30 - 14:40	5 THYMOSIN β4 MEDIATES VASCULAR PROTECTION VIA INTERACTION WITH LOW DENSITY LIPOPROTEIN RECEPTOR RELATED PROTEIN 1 (LRP1) <u>S Munshaw</u> ^{*1} , S Bruche ¹ , AN Redpath ¹ , J Patel ² , KN Dubé ¹ , KM. Channon ² & N Smart ¹ ¹ Department of Physiology, Anatomy & Genetics, University of Oxford, Sherrington Building, South Parks Road, Oxford OX1 ADE LW
14:40 - 14:45	Oxford OX1 3P1 UK ^{2*} Division of Cardiovascular Medicine, University of Oxford, John Radcliffe Hospital, Oxford OX3 9DU, UK Discussion
14:45 – 14:55	6

TROPOELASTIN: A NOVEL IMAGING BIOMARKER FOR PLAQUE PROGRESSION AND INSTABILITY

A. Phinikaridou ^{1,2*}; S. Lacerda ^{1,2,3*}; B. Lavin ^{1,2}; M.E. Andia, MD ^{1,4}; A. Smith ⁵; P. Saha, ⁵; R.M. Botnar ^{1,2,67}

¹ School of Biomedical Engineering Imaging Sciences, King's College London, London, UK.

- ² BHF Centre of Excellence, Cardiovascular Division, King's College London, London, UK.
 - ³ Centre de Biophysique Moléculaire, CNRS, Orléans, France (curent affiliation).
- ⁴ Radiology Department, School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile.
- ⁵ Academic Department of Vascular Surgery, Cardiovascular Division, King's College London, London, UK.
- ⁶ Wellcome Trust and EPSRC Medical Engineering Center, King's College London, UK.
- ⁷ Pontificia Universidad Católica de Chile, Escuela de Ingeniería, Santiago, Chile.
- 14:55 15:00 Discussion

15:00 - 15:30	Refreshments and Exhibition Conservatory	
	Chairperson: Manuel MAYR	
15:30 - 16:15	Hugh Sinclair LECTURE:	
	Scientific Bases of Health: Imaging, Omics and Behavior	
	VALENTIN FUSTER (Mount Sinai, New York)	
16:15 - 17.00	BAS AGM Fitzpatrick Hall	
17:00 - 17:30	Short break	
17:30 - 20:00	Drinks Reception and Poster Session Cripps Dining Hall	
	P-1 PERIVASCULAR ADIPOSE TISSUE-DERIVED WNT5A AS A REGULATOR OF HUMAN VASCULAR DISEASE PATHOGENESIS Ioannis Akoumianakis, Fabio Sanna, Marios Margaritis, Laura Herdman, Alexios S Antonopoulos, Rana Sayeed, George Krasopoulos, Mario Petrou, Keith M Channon, Charalambos Antoniades Cardiovascular Medicine Division, Level 6 West Wing, John Radcliffe Hospital, Headley Way, Headington, Oxford OX3 9DU	

NOVEL ULTRASOUND IMAGING TECHNIQUES HELP CHARACTERIZE AND IDENTIFY THE VULNERABLE PLAQUE

- F Al-mutairi¹*, B Kanber¹, J Garrard¹, TC Hartshorne³, TG Robinson¹, E Chung¹ and KV Ramnarine^{1,2}
- 1. Department of Cardiovascular Sciences, University of Leicester, Leicester, UK
- 2. Department of Medical Physics, University Hospitals of Leicester NHS Trust, Leicester, UK
- 3. Department of Vascular and Endovascular Surgery, University Hospitals of Leicester NHS Trust, Leicester, UK

P-3

PROTEIN ATLAS OF THE HUMAN VASCULAR EXTRACELLULAR MATRIX

F Baig^{*1}, J Barallobre-Barreiro¹, M Fava¹, M Jahangiri², M Mayr¹

- ¹King's British Heart Foundation Centre, King's College London, London, UK
- ² St George's University of London, NHS Trust, United Kingdom

P-4

VALIDATION OF A NOVEL HUMAN EX-VIVO MODEL OF ANEURYSM TO SUPPLANT MOUSE MODELS

<u>R Bianco</u>*, K Di Gregoli, M Caputo, M Zakkar, SJ George, JL Johnson

Laboratory of Cardiovascular Pathology, Bristol Medical School, University of Bristol, Bristol, England

P-5

MODULATION OF THE ACTIN CYTOSKELETON IN MACROPHAGE PHENOTYPES DIFFERENTIALLY AFFECTS THEIR BEHAVIOUR S. Boyajian, SJ. George, and JL. Johnson

Laboratory of Cardiovascular Pathology, School of Clinical Sciences, Faculty of Health Sciences, University of Bristol, Bristol, UK.

P-6

VASCULAR INFLAMMATION AS REVEALED BY MULTIPLEXED-PROTEOMICS IN AN LPS-DRIVEN ENDOTOXEMIA MODEL <u>SA Burnap</u>*¹, U Mayr¹, A Joshi¹; F Cuello², MR Thomas³, I Sabroe⁴, RF Storey⁴, M Mayr¹.

Kingdom.

²Department of Experimental Pharmacology and Toxicology, Cardiovascular Research Centre, University Medical Centre Hamburg-Eppendorf, Martinistrasse 52, 20246, Hamburg, Germany.

³University of Birmingham, Birmingham, United Kingdom

⁴Department of Infection, Immunity and Cardiovascular Disease, University of Sheffield, United Kingdom

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CONSEQUENCES OF TRIB3 DEFICIENCY ON EXPERIMENTAL ATHEROSCLEROSIS AND MACROPHAGE PHENOTYPE

<u>Martinez Campesino, L</u>*[†]; Johnston, JM[†]; Francis, SE; Kiss-Toth E; Wilson, HL.

Department of Infection, Immunity & Cardiovascular Disease, Medical School, Beech Hill Road, University of Sheffield, UK.

P-8

ELUCIDATING THE MECHANOSENSITIVE RNA INTERACTOME IN ENDOTHELIAL CELLS IN VIVO

*<u>KY Chooi</u>¹, R Nikolopoulou², MB Patel¹, F Savvopoulos^{12,3}, M Barnes⁴, R de Silva³, R Krams¹ School of Engineering and Materials Science, Queen Mary University of London Department of Bioengineering, Imperial College London National Heart and Lung Institute, Imperial College London William Harvey Research Institute, Queen Mary University of London

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VASCULAR SMOOTH MUSCLE CELL PLASTICITY IN DISSECTING AORTIC ANEURYSMS

<u>M. Clément</u>, J. Chappell, J. Raffort, F. Lareyre, M. Vandestienne, A. L. Taylor, A. Finigan, J. Harrison, M. R Bennett, P. Bruneval, S. Taleb, H. F. Jørgensen, Z. Mallat.

From the Division of Cardiovascular Medicine, University of Cambridge, Cambridge, UK (M.C., J.C., J.R., F.L., A.L.T., A.F., J.H., M.R.B., H.F.J., Z.M.), and Institut National de la Santé et de la Recherche Médicale, Universite Paris-Descartes, Paris Cardiovascular Research Center, and Université Paris-Descartes, Paris, France (M.V., P.B., S.T., Z.M.); Department of Vascular Surgery (F.L.) and Clinical Chemistry Laboratory (J.R.), University Hospital of Nice, and Université Côte d'Azur, Nice, France.

P-10

UNCOVERING MYELOID CELL DIVERSITY IN ATHEROSCLEROSIS USING MASS CYTOMETRY

<u>Jennifer E Cole¹</u>*, Inhye Park¹, David Ahern¹, Lea Dib¹, Christina Kassiteridi¹, Dina Danso Abeam¹, Michael Goddard¹, Patricia Green¹, Pasquale Maffia^{2,3,4}, Claudia Monaco¹

¹Kennedy Institute of Rheumatology, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Oxford, United Kingdom;

²Centre for Immunobiology, Institute of Infection, Immunity and Inflammation, College of Medical, Veterinary and Life Sciences, University of Glasgow, Glasgow, United Kingdom;

³Institute of Cardiovascular and Medical Sciences, College of Medical, Veterinary and Life Sciences, University of Glasgow, Glasgow, United Kingdom;

⁴Department of Pharmacy, University of Naples Federico II, Naples, Italy.

LOSS OF KIAA1462, A CORONARY ARTERY DISEASE ASSOCIATED GENE, DECREASES ATHEROSCLEROSIS.

<u>Gillian Douglas</u>, Theodosios Kyriakou, Victoria S. Rashbrook, Edward Drydale, Ayman Al Haj Zen, Lucy Trelfa, Vedanta Mehta, Ellie Tzima, Hugh Watkins and Keith M. Channon

BHF Centre of Research Excellence, Division of Cardiovascular Medicine, John Radcliffe Hospital, University of Oxford, UK

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INCREASING ENDOTHELIAL INSULIN-LIKE GROWTH FACTOR-1 RECEPTOR EXPRESSION REDUCES CIRCULATING LEUKOCYTES AND PROTECTS AGAINST ATHEROSCLEROSIS

<u>M Drozd</u>^{*1}, NY Yuldasheva¹, A Maqbool¹, H Viswambharan¹, NT Watt¹, V Palin¹, S Galloway¹, A Skromna¹, N Makava¹, SB Wheatcroft¹, MT Kearney¹, RM Cubbon¹.

¹ Leeds Institute for Cardiovascular and Metabolic Medicine, LIGHT Laboratories, University of Leeds, UK

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CYCLIC-AMP DOWN REGULATES EPAC TRANSCRIPTION IN CARDIAC FIBROBLASTS VIA INHIBITION OF YAP-TEAD ACTIVITY. A NOVEL NEGATIVE FEEDBACK LOOP CONTROLLING CAMP SIGNALLING

*Reza Ebrahimighaei, Andrew Newby and Mark Bond

Department of Translational Health Sciences, University of Bristol, Bristol, BS2 8HW

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CELL SURFACE INTERLEUKIN-1α, WHICH DRIVES THE SENESCENCE-ASSOCIATED SECRETORY PHENOTYPE (SASP), IS TETHERED VIA IL-1R2 OR GPI-ANCHORED

<u>J. N. E. Chan</u>*, M. Humphry, K. A. Wiggins, L. C. Burzynski, M. C. Clarke Division of Cardiovascular Medicine, Department of Medicine, Addenbrooke's Centre for Clinical Investigation, University of

Cambridge.

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CAROTID ATHEROMA INFLAMMATION IS ASSOCIATED WITH DISEASE SEVERITY IN BOTH ACUTE AND CHRONIC CEREBROVASCULAR DISEASE

<u>NR Evans</u>^{1,2*}, JM Tarkin¹, J Walsh², MM Chowdhury³, HS Markus², JHF Rudd¹, EA Warburton².

- 1. Department of Medicine, University of Cambridge, Cambridge, UK.
- 2. Department of Clinical Neurosciences, University of Cambridge, Cambridge, UK.
- 3. Department of Surgery, University of Cambridge, Cambridge, UK.

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DEVELOPING NEW TARGETED MOLECULAR CONTRAST AGENTS FOR IMAGING INFLAMMATION OF VULNERABLE PLAQUES

<u>R. J. Evans¹</u>*, J. Hernández-Gil¹, Z. Mohri², K. Y. Chooi^{2,5}, B. Lavin-Plaza⁴, A. Phinikaridou⁴, J. E. Pease³, R.Krams⁵, R. Botnar⁴, N. J. Long¹

¹Department of Chemistry, ²Department of Bioengineering, ³NHLI, Imperial College London, Exhibition Road, London, SW7 2AZ, ⁴Department of Biomedical Engineering, The Rayne Institute, London, SE1 7EH, ⁵Department of Engineering, QMUL, Mile End Road, London, E1 4NS

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EFFECTS OF GADD34, GROWTH ARREST AND DNA DAMAGE-INDUCIBLE PROTEIN 34, ON ATHEROSCLEROSIS AND POST-ISCHEMIC CARDIAC INJURY

M.Takaoka, J.Harrison, Z. Mallat, and J. Goodall

University of Cambridge, Department of Medicine, Division of Cardiovascular Medicine. Cambridge. CB2 0SZ.

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INCREASED EXPRESSION AND TRANSLOCATION OF KRUPPEL-LIKE FACTOR 4 AND SMOOTH MUSCLE ALPHA ACTIN AFTER BEING SUBMITTED TO ACUTE SHEAR STRESS IN AN EX-VIVO MODEL

*<u>Gustavo A Guida</u>, Alex Ward, Vito D Bruno, Prof. Sarah George, Rakesh Krishnadas, Prof. Gianni D Angelini, and Mustafa Zakkar University Hospitals Bristol NHS Foundation Trust, Bristol, UK.

Bristol Heart Institute, University of Bristol, Bristol, UK.

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HISTONE H3 LYSINE 9 DIMETHYLATION REGULATES GENE EXPRESSION CHANGES ASSOCIATED WITH VASCULAR SMOOTH MUSCLE CELL PHENOTYPIC SWITCHING

<u>Jennifer Harman</u>^{1,2*}, Joel Chappell^{1,3}, Amanda Dalby¹, Martin R. Bennet¹, Helle F. Jørgensen^{1,2,3} ¹Division of Cardiovascular Medicine, Department of Medicine, University of Cambridge, UK. ²BHF Oxbridge Centre of Regenerative Medicine. ³BHF Cambridge Centre for Cardiovascular Research Excellence.

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ANTIBODIES PREDICT CARDIOVASCULAR OUTCOMES AND NECROTIC CORE IN NORDIL AND IBIS-3 SUB-STUDIES

VJ van den Berg^{a, c, d#}, DO Haskard^{b#}, A Fedorowsk^{ie,f}, <u>A Hartley^b</u>, I Kardys^a, MC Anan^b, KM Akkerhuis^a, RM Oemrawsingh^a, RJ van Geuns^a, P de Jaegere^a, N van Mieghem^a, E. Regar^a, JMR Ligthart^a, VAWM Umans^c, PW Serruys^b, O Melander^e, E Boersma^{as}, RY Khamis^{b5}

#Joint first authors \$ Joint senior authors

a) Erasmus Medical Centre (EMC), Rotterdam, the Netherlands

- b) National Heart and Lung Institute, Imperial College, London, United Kingdom
- c) Northwest Clinics (NWZ), Alkmaar, the Netherlands
- d) Netherlands Heart Institute (NHI), Utrecht, the Netherlands

e) Department of Clinical Sciences, Malmö, Faculty of Medicine, Lund University, Clinical Research Center, Malmö, Sweden f) Department of Cardiology, Skåne University Hospital, Malmö, Sweden

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MICRORNA-214 IS A NOVEL PLAYER IN INFLAMMATORY SMOOTH MUSCLE CELL DIFFERENTIATION AND ANGIOPLASTY RESTENOSIS

<u>Shiping He1</u>,2, Qishan Chen1,3, Feng Yang1,3, Jiangyong Chen1, Eithne Margaret Maguire1, Mei Yang1,3, Weiwei An1, Li Zhang3, Wen Wang2 and Qingzhong Xiao1

Clinical Pharmacology, William Harvey Research Institute, Barts and the London School of Medicine and Dentistry Queen Mary, University of London " William Harvey Heart Centre, Room: G23" Charterhouse square, London, EC1M 6BQ

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MYELOID TRIB1 PROMOTES EXPERIMENTAL ATHEROSCLEROSIS

<u>Johnston, JM</u>^{*†}; Angyal, A[†]; Bauer, R^{§+†}; Hamby, SE[¶]; Suvarna, SK[†]; Baidžajevas, K[†]; Hegedus, Z^{*}; Dear, NT⁺; Turner, M[■]; The Cardiogenics Consortium; Wilson, HL[†]; Goodall, AH[¶]; Rader, DJ^{††}; Shoulders, CC[¢]; Francis, SE[†]; Kiss-Toth, E[†].

[†] Department of Infection, Immunity & Cardiovascular Disease, Medical School, Beech Hill Road, University of Sheffield, UK. [§] Division of Cardiology, Dept. of Medicine, Columbia University Medical Center, USA

¹ Department of Cardiovascular Sciences, University of Leicester and NIHR Cardiovascular Biomedical Research Unit, Glenfield Hospital, Leicester, UK.

[®]Institute of Biophysics, Biological Research Centre, Hungarian Academy of Sciences, Szeged & Departments of Biochemistry and Medicinal Chemistry, University of Pecs, Medical School, Hungary.

+[®]Department of Medicine, University of Leeds, UK.

malaboratory of Lymphocyte Signalling and Development, The Babraham Institute, Babraham Research Campus, Cambridge, UK.

⁺⁺ Perelman School of Medicine at the University of Pennsylvania and Children's Hospital of Philadelphia, Smilow Center for Translational Research, Philadelphia, USA

[#] Centre for Endocrinology, William Harvey Institute, Queen Mary University of London, UK.

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TRIGLYCERIDE-CONTAINING LIPOPROTEIN SUB-FRACTIONS AND CORONARY HEART DISEASE AND STROKE RISK

<u>R Joshi</u>*, G Wannamethee*, D Rhodes, J Engmann, C Dale, T Gaunt, B Jefferis, O Papacosta, T Shah, T Tillin, A Wong, N Chaturvedi, M Kivimaki, D, Kuh, M Kumari, A Hughes, Y Ben-Shlomo, J. P Casas, A D Hingorani[^], A F Schmidt[^]; and on behalf of the UCLEB Consortium, 222 Euston Road, London, NW1 2DA *shared first; ^shared last

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KNOCKOUT OF AUTOTAXIN IN ENDOTHELIAL CELLS REDUCES ATHEROSCLEROSIS IN HYPERLIPIDEMIC MICE

<u>Ela Karshovska</u>^{*}, Rokia Mohibullah, Farima Zahedi, Dominique Thomas, Nerea Ferreirós, Vassilis Aidinis, Andreas Schober EK, RM, FZ, AS- Institute for Cardiovascular Prevention, Ludwig-Maximilians-University, Munich, Germany

DT, NF - Institute of Clinical Pharmacology, Johann Wolfgang Goethe-University, Frankfurt, Germany

VA - Division of Immunology, Biomedical Science Research, Center Alexander Fleming, Athens, Greece

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HUMAN MACROPHAGE SUBSETS IN THE PATHOGENESIS OF CAROTID ATHEROSCLEROSIS

<u>K. Kocsy</u> 1, 2 *; <u>R. Alqurashi</u> 1*; J. M. Johnston 1; A. Majid 2; H. L. Wilson 1; E. Kiss-Toth 1; J. Redgrave 2, S. E. Francis 1 1 Department of Infection, Immunity & Cardiovascular Disease, University of Sheffield (Beech Hill Road, Sheffield, S10 2RX) 2 Department of Neuroscience (NIHR BRC Translational Neuroscience), University of Sheffield (385a Glossop Road, Sheffield, S10 2HQ)

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METABOLICALLY HEALTHY OBESE INDIVIDULAS PRESENT A DISTINCT EPICARDIAL FAT PHENOTYPE AND LOW MYOCARDIAL OXIDATIVE STRESS

<u>C. Kotanidis¹</u>*, A. Antonopoulos¹, L. Herdman¹, S. Thomas¹, I. Akoumianakis¹, K. Thomas¹, E. Oikonomou¹, K Psarros¹, R Sayeed², C. Antoniades¹

¹ Division of Cardiovascular Medicine, Radcliffe Department of Medicine, University of Oxford, United Kingdom.

² Cardiothoracic Directorate, Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom.

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FOCAL VASCULAR INJURY CAUSES SUSTAINED REMOTE ENDOTHELIAL DYSFUNCTION AND ATHEROSCLEROTIC PLAQUE PROGRESSION: AN IN VIVO MURINE MRI STUDY

<u>B. Lavin¹</u>*, A. Phinikaridou¹, M.E. Andia², I. Rashid¹, M. Potter¹, R.M. Botnar^{1,2}

¹School of Biomedical Engineering and Imaging Sciences, King's College London, UK.

²Radiology Department & Biomedical Imaging Centre, Pontificia Universidad Católica de Chile

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PRAVASTATIN AND MINOCYCLINE TREATMENT AFFECTS VESSEL WALL REMODELING IN A MURINE MODEL OF VASCULAR INJURY

<u>B. Lavin¹</u>, A. Phinikaridou¹, ME. Andia², I. Rashid¹, M. Potter¹, René M. Botnar^{1,2} ¹School of Biomedical Engineering and Imaging Sciences, King's College London, UK. ²Radiology Department & Biomedical Imaging Centre, Pontificia Universidad Católica de Chile

THE OMEGA 3 POLYUNSATURATED FATTY ACID, EICOSAPENTAENOIC ACID INHIBITS FOAM CELL FORMATION AND SECRETION OF PRO-INFLAMMATORY MEDIATORS

Lezama DR*, Chimen M, Iqbal AJ and Rainger GE

Institute of Cardiovascular Sciences, The College of Medicine and Dentistry, The University of Birmingham, Birmingham, B15 2TT.

P-30

ERYTHROCYTE-DERIVED INTERLEUKIN-33 INSTRUCTS THE SPECIFICATION OF IRON-RECYCLING MACROPHAGES

Lu Y, Scott IC, Clément M, Harrison JR, Newland SA, Yu X, Li X, McKenzie ANJ, Cohen ES, Mallat Z Department of Medicine, Division of Cardiovascular Medicine, University of Cambridge, West Forvie Building, Forvie Site, Robinson Way, Cambridge CB2 0SZ, UK

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LOSS OF ADAMTS-5 ACCELERATES ATHEROSCLEROSIS IN APOE-/- MICE

<u>M Lynch</u>*, U Mayr, F Baig, R Lu, J Barallobre-Barreiro, P Skroblin, Manuel Mayr King's College London British Heart Foundation Centre, School of Cardiovascular Medicine and Sciences, 125 Coldharbour Lane, London, SE5 9NU, UK

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ACCELERATED ATHEROSCLEROSIS AND MYOCARDIAL INJURY IN PEOPLE LIVING WITH HIV

<u>Dr G Manmathan</u>, Mr A Hunter, Prof Johnson, Dr R Rakhit

(1) The Ian Charleson Day Centre, Royal Free Hospital, Pond Street, London NW3 2QG

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PRO- AND ANTI-INFLAMMATORY MACROPHAGES DISPLAY DIVERGENT POLARISATION TOWARDS VASCULAR SMOOTH MUSCLE-LIKE AND ENDOTHELIAL-LIKE PHENOTYPES.

MA. Mat Noh, K. Di Gregoli, SJ. George, JL. Johnson

Laboratory of Cardiovascular Pathology, School of Clinical Sciences, Faculty of Health Sciences, University of Bristol, Bristol, UK.

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CYCLIC-AMP INDUCED NUCLEAR ACTIN DYNAMICS DIVERGENTLY REGULATES PROLIFERATION AND MIGRATION OF VSMCs AND ECs

*<u>M McNeill</u>, S White, G Sala-Newby, AC Newby, M Bond

Department of Translational Health Sciences, University of Bristol, U.K.

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EARLY OVERNUTRITION IN RATS INDUCES ALTERATIONS IN THE CARDIOVASCULAR RESPONSE TO INSULIN IN ADULTHOOD

<u>Guerra-Menéndez L¹</u>, Tejera-Muñoz A², González-Hedström D^{2,3}, Amor S², Oltra B¹, Diéguez G¹, Paredes JA¹, Arriazu R¹, García-Villalón AL², Granado M²

(1) Departamento de Ciencias Médicas Básicas, Universidad San Pablo-CEU

- (2) Departamento de Fisiología, Facultad de Medicina, Universidad Autónoma de Madrid (UAM)
- (3) Pharmactive Biotech Products SL, Parque Científico de Madrid

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IL-1B IS PROCESSED BUT NOT SECRETED BY VASCULAR SMOOTH MUSCLE CELLS

<u>M A Morales-Maldonado</u>*, M Humphry, SL Gardner, MCH Clarke

Cardiovascular Medicine Division, Department of Medicine, University of Cambridge, Box 110 ACCI, Addenbrooke's Hospital, Cambridge, CB2 0QQ, UK

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MIR-103 PROMOTES ENDOTHELIAL MALADAPTATION AND ATHEROSCLEROSIS BY TARGETING LNCWDR59

<u>L Natarelli¹</u>*, C Geißler, G Csaba², Y Wei¹, M Zhu¹, A di Francesco³, P Hartmann¹, R Zimmer², A Schober¹ ¹Institut für Prophylaxe und Epidemiologie der KreislaufkrankheitenExperimental Vascular Medicine (IPEK), Institute for Cardiovascular Prevention, Ludwig-Maximilians University Munich, Munich, Pettenkoferstrasse 9, 80336 Munich, Germany. ²Institute for Informatics, Ludwig-Maximilians University Munich, Oettingenstraße 67, 80538 Munich, Germany. ³Department of Cardiac, Thoracic and Vascular Sciences, University of Padova, Via Giustiniani 2, 35128 Padova, Italy.

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NON CYTOKINE MEDIATED ACTIVATION OF ILC2 IMPACTS ATHEROSCLEROSIS PROGRESSION

Newland SA, Hufnagel A, Lam BYH, Ma M, Yeo GSH, Ugolini S and Mallat Z.

University of Cambridge, Department of Cardiovascular Medicine, West Forvie Building, Forvie Site Robinson Way, Cambridge, CB2 0SZ

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MIR-101-3P CONTROLS TRIB1 EXPRESSION IN HUMAN MACROPHAGES: A POTENTIAL TARGET IN ATHEROSCLEROTIC PLAQUES *C. Niespolo¹, J.S. Viloria^{2,3}, O.V. Perez², H. L. Wilson¹, E. Kiss-Toth¹

1 Department of Infection, Immunity and Cardiovascular Diseases, University of Sheffield, United Kingdom

2 Mind the Byte (formerly Intelligent Pharma), Barcelona, Spain

3 University of Barcelona, Spain

PERIVASCULAR FAT IMAGING FOR UNSTABLE PLAQUE DETECTION AND PREDICTION OF CORONARY PLAQUE PROGRESSION

<u>EK Oikonomou¹</u>*, S Thomas¹, S Kesavan², LM Fan², AS Antonopoulos¹, S Anthony³, N Sabharwal², A Kelion², C Shirodaria², JP Langrish², AJ Lucking², RK Kharbanda², S Neubauer¹, KM Channon¹, C Antoniades¹

¹Division of Cardiovascular Medicine, Radcliffe Department of Medicine, University of Oxford, United Kingdom.

- ² Cardiothoracic Directorate, Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom.
- ³ Department of Radiology, Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom.

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OXIDATION OF LDL BY FERRITIN IN LYSOSOMES INCREASES OXIDATIVE STRESS IN MACROPHAGES O.O. Ojo* & D.S. Leake

School of Biological Sciences and Institute for Cardiovascular and Metabolic Research, University of Reading, Reading, Berkshire,

School of Biological Sciences and Institute for Cardiovascular and Metabolic Research, University of Reading, Reading, Berkshire, RG6 6UB, United Kingdom

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INVESTIGATING THE ROLE OF DENDRITIC CELL IMMUNORECEPTOR 1 (DCIR1) IN VASCULAR MACROPHAGES USING MASS CYTOMETRY

<u>I Park¹</u>*, J Cole¹, M Goddard¹, D, Ahern¹, P Green¹, C Monaco¹

¹Kennedy Institute of Rheumatology, University of Oxford, Roosevelt Drive, Oxford, OX3 7FY

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DOES MILD CORONARY ARTERY ATHEROSCLEROSIS PROGRESS AT SERIAL ANGIOGRAPHY?

<u>Parker W</u>*, ^{1,2} Gosling R, ^{1,2} Churton A,³ Parviz Y,² Iqbal J,² Heppenstall J,² Teare D,⁴ Gunn J^{1,2} Department of Infection, Immunity & Cardiovascular Disease, University of Sheffield Medical School, Sheffield, UK Department of Cardiology, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK

University of Birmingham Medical School, Birmingham, UK

School of Health and Related Research, University of Sheffield, Sheffield, UK

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QUANTITATIVE AND NONINVASIVE MRI of the ENDOTHELIAL PERMEABILITY AND FUNCTION IN CAROTID ATHEROSCLEROSIS

<u>A Phinikaridou</u>^{1,2*}, J Silickas ³, B Lavin ^{1,2}, A Smith ³, P Saha ³, RMBotnar ^{1,2,4,5}

¹ School of Biomedical Engineering Imaging Sciences, King's College London, London, UK.

² BHF Centre of Excellence, Cardiovascular Division, King's College London, London, UK.

London, UK.

³ Academic Department of Vascular Surgery, Cardiovascular Division, King's College London, London, UK.

⁴ Wellcome Trust and EPSRC Medical Engineering Center, King's College London, UK.

⁵ Pontificia Universidad Católica de Chile, Escuela de Ingeniería, Santiago, Chile.

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ABSENCE OF INTERLEUKIN-1 RECEPTOR 2 LEADS TO STEADY-STATE IMMUNE DYSFUNCTION AND ACCELERATION OF ATHEROSCLEROSIS

<u>K Pyrillou¹</u>*, M Humphry¹, L Burzynski¹, AP Sage¹, A Finigan¹, MR Bennett¹, Z Mallat^{1,2}, MCH Clarke¹

¹Division of Cardiovascular Medicine, University of Cambridge, Addenbrooke's Centre of Clinical Investigation, Hills Road, CB2 0QQ

²Institut National de la Santé et de la Recherche Médicale, Unit 970, Paris Cardiovascular Research Center, Paris, France

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TGFβ NEUTRALIZATION FINELY TUNES MACROPHAGE PHENOTYPE IN ELASTASE INDUCED ABDOMINAL AORTIC ANEURYSM

<u>J. Raffort^{1,2,3,4*}</u>, F. Lareyre^{1,4,5}, M. Clément¹, C. Moratal⁴, E. Jean-Baptiste^{4,5}, R. Hassen-Khodja^{4,5}, F. Burel-Vandenbos⁶, P. Bruneval⁷, G. Chinetti^{3,4}, Z. Mallat^{1,2}

¹ Division of Cardiovascular Medicine, Department of Medicine, University of Cambridge, Cambridge, UK, CB20 SZ

² Institut National de la Santé et de la Recherche Médicale (Inserm), Unit 970, Paris Cardiovascular Research Center, 75015 Paris, France

³ Department of Clinical Biochemistry, University Hospital of Nice, France

⁴ Université Côte d'Azur, CHU, Inserm U1065, C3M, Nice, France

⁵ Department of Vascular Surgery, University Hospital of Nice, France

- ⁶ Department of Pathology, University Hospital of Nice, France.
- ⁷ Department of Pathology, Hôpital Européen Georges Pompidou, Assistance Publique-Hôpitaux de Paris, France.

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DIFFERENTIAL MICRO-RNA EXPRESSION IN DIABETIC PATIENTS WITH ABDOMINAL AORTIC ANEURYSM

<u>J. Raffort</u>^{1,2,3,4*}, F. Lareyre^{1,4,5}, M. Clément¹, C. Moratal⁴, X. Loyer², E. Jean-Baptiste^{4,5}, R. Hassen-Khodja^{4,5}, G. Chinetti^{3,4}, Z. Mallat^{1,2} ¹ Division of Cardiovascular Medicine, Department of Medicine, University of Cambridge, Cambridge, UK, CB20 SZ.

² Institut National de la Santé et de la Recherche Médicale (Inserm), Unit 970, Paris Cardiovascular Research Center, 75015 Paris, France

³ Department of Clinical Biochemistry, University Hospital of Nice, France

⁴ Université Côte d'Azur, CHU, Inserm U1065, C3M, Nice, France

⁵ Department of Vascular Surgery, University Hospital of Nice, France

TGFβ BLOCKADE INDUCES A HUMAN-LIKE DISEASE IN A NON-DISSECTING MOUSE MODEL OF ABDOMINAL AORTIC ANEURYSM

F. Lareyre^{1,2}, M. Clément¹, <u>J. Raffort^{1,2,3*}</u>, S. Pohlod⁴, M. Patel¹, B. Esposito³, L. Masters¹, A. Finigan¹, M. Vandestienne³, N. Stergiopulos^{4,5}, S. Taleb², B. Trachet^{4,5}, Z. Mallat^{1,3}

¹Division of Cardiovascular Medicine, University of Cambridge, Cambridge, UK, CB20 SZ.

²Université Côte d'Azur, CHU, Inserm U1065, C3M, Nice, France

³Institut National de la Santé et de la Recherche Médicale, Paris Cardiovascular Research Center, 75015 Paris, France

⁴ Institute of Bioengineering, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

⁵ IBiTech - bioMMeda, Ghent University, Ghent, Belgium

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EFFECTS OF PHARMACOLOGICAL INHIBITION OF SPHINGOSINE KINASE 1 ON CARDIOVASCULAR FUNCTION IN ANGIOTENSIN II-DEPENDENT HYPERTENSION IN VIVO

Józefczuk E¹, Nosalski R^{1,2}, Szczepaniak P¹, Guzik TJ^{1,2}, Siedlinski M¹*

¹Department of Internal and Agricultural Medicine, Faculty of Medicine, Jagiellonian University Medical College, Kraków, Poland ²BHF Centre for Research Excellence, Institute of Cardiovascular and Medical Research (ICAMS), University of Glasgow, Glasgow, United Kingdom

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IDENTIFICATION OF A NOVEL YAP: TEAD INTERACTION INHIBITOR THAT DIFFERENTIALLY REGULATES PROLIFERATION AND MIGRATION IN VSMCS AND ECS

<u>Sarah Smith</u>, Richard B Sessions, Deborah Schoemark, Christopher Williams, Madeleine Smith, Matthew Crump, Andrew Newby, Mark Bond

(1) School of Translational Health Sciences, Faculty of Health, University of Bristol, Research Floor Level 7, Bristol Royal Infirmary, Bristol BS2 8HW.

(2) School of Biochemistry, Faculty of Biomedical Sciences, Biomedical Sciences Building, University of Bristol, BS8 1TD. (3) School of Chemistry, Cantock's Close, University of Bristol, Bristol, BS8 1TS.

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⁶⁸Ga-DOTATATE PET IDENTIFIES MYOCARDIAL INFLAMMATION AND BONE MARROW MONOCYTE MOBILISATION AFTER MYOCARDIAL INFARCTION

<u>IM Tarkin</u>*,^{1,2} EPV Le,¹ C Calcagno,³ MR Dweck,⁴ NR Evans,⁵ MM Chowdhury,⁶ DE Newby,⁴ ZA Fayad,³ MR Bennett,¹ JHF Rudd¹ ¹Division of Cardiovascular Medicine, University of Cambridge

²National Heart & Lung Institute, Imperial College London

³Translational & Molecular Imaging Institute and Department of Radiology, Icahn School of Medicine at Mount Sinai, New York ⁴British Heart Foundation Centre for Cardiovascular Science, University of Edinburgh

⁵Department of Clinical Neurosciences, University of Cambridge

⁶Department of Vascular and Endovascular Surgery, Addenbrooke's Hospital, Cambridge

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VARIATION OF VON-WILLEBRAND FACTOR EXPRESSION IN THE ENDOTHELIUM OF HUMAN CORONARY ATHEROSCLEROTIC PLAQUES: IMPLICATIONS FOR THROMBOSIS

<u>U Tarvala¹</u>*; RN Poston²

¹ Barts and The London School of Medicine, London, UK

² William Harvey Research Institute, London, UK

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SINGLE CELL PROFILING REVEALS SCA1-POSITIVE VASCULAR SMOOTH MUSCLE CELLS IN HEALTHY AND DISEASED VESSELS

<u>A.L. Taylor¹</u>*#, L. Dobnikar^{2#}, J. Chappell¹, J. Harman¹, M.R.Bennett¹, M. Spivakov^{2,3}, H.F. Jørgensen¹.

¹Cardiovascular Medicine Division, Department of Medicine, University of Cambridge, UK.

²Nuclear Dynamics ISP, Babraham Institute, Cambridge, UK.

³Gene Control Group, Epigenetics Section, MRC London Institute of Medical Sciences, UK.

[#]Equal contribution from both authors.

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LOCALISED CORONARY ARTERY INFLAMMATORY BIOMARKER EXPRESSION DOES NOT CORRELATE WITH SYSTEMIC ELEVATION OF BIOMARKERS OR hsCRP

<u>Nick E.J. West</u>*, Joseph P. Corrigan, Adam J. Brown, Richard H.G. Owen, Stephen P. Hoole, Diane Proudfoot, Stephen Blatcher. Department of Interventional Cardiology, Royal Papworth Hospital, Cambridge; PlaqueTec Ltd., Cambridge; Department of Cardiovascular Medicine, University of Cambridge.

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NRF2-MEDIATED UPREGULATION OF OSGIN1 AND OSGIN2 TRIGGERS CELL DETACHMENT THROUGH DYSREGULATED AUTOPHAGY – A POTENTIAL MECHANISM FOR ENDOTHELIAL EROSION OVERLYING STENOTIC PLAQUES

Sandro Satta¹, Michael Mcelroy², Georgina Hazell³, Jack Teasdale³, Graciela Sala-Newby³, Jason Johnson³, Frank Gijsen⁴, Tom Johnson³, Yvonne Alexander¹, Amir Kesmiri², Andrew Newby³ & <u>Stephen White¹</u>

¹School of Healthcare Sciences, Manchester Metropolitan University, Manchester M1 5GD, UK.

²School of Mechanical, Aerospace and Civil Engineering, University of Manchester, Manchester M13 9PL, UK.

³School of Clinical Sciences, University of Bristol, Bristol Royal Infirmary, Bristol, BS2 8HW, UK.

⁴Department of Biomedical Engineering, Erasmus Medical Center, Rotterdam, The Netherlands

	 P-56 TISSUE RESIDENT ILC2 ARE ACTIVATED FOLLOWING ISCHEMIA AND REGULATE HEART FUNCTION AFTER ACUTE MYOCA INFARCTION Yu X*, Newland S, Lu YN, Harrison J, Mallat Z Department of Medicine, University of Cambridge, The West Forvie Building, Robinson Way, Cambridge, CB2 0SZ, UK. P-57 FLUID-STRUCTURE INTERACTION MODELLING FOR ANALYSING ADVANCED CORONARY ATHEROSCLEROTIC PLAQUE FORMATION IN TRANSGENIC HYPERLIPIDAEMIC MINIPIGS P. Yanga*, R. Silvaa, b, R. Pedrigic, M. Patela, Y. Chooid, R. Ahmeda, J. Nasera, R. Kramsd a. National Heart & Lung Institute, Imperial College London, Guy Scadding Building, Cale Street, London, SW3 6LY, United Kingdom b. Harefield NHS Foundation Trust, Level 2 Chelsea Wing , Sydney Street, London, SW3 6NP, United Kingdom c. Mechanical and Materials Engineering, University of Nebraska-Lincoln, Lincoln, NE 68588-0526, United States d. School of Engineering and Materials Science, Queen Mary University of London, Mile End Road, London, E1 4NS, United Kingdom 	ARDIAL
	 P-58 GLYCOPROTEOMIC ANALYSIS OF THE AORTIC EXTRACELLULAR MATRIX IN PATIENTS WITH MARFAN SYNDROME X Yin^{*1}, S Wanga², A Fellows¹, J Barallobre-Barreiro¹, R Lu¹, R Franken³, M Fava¹, P Skroblin¹, Q Xing¹, DR Koolbergen⁴, M Groenink^{3,5}, AH Zwinderman⁶, R Balm⁷, CJM de Vries², BJM Mulder^{3,8}, R Viner⁹, M Jahangiri¹⁰, V de Waard², M Mayr¹ ¹ King's British Heart Foundation Centre, King's College London, London, UK ² Department of Medical Biochemistry, Amsterdam UMC, location Academic Medical Center, Amsterdam, The Netherland ³ Department of Cardiology, Amsterdam UMC, location Academic Medical Center, Amsterdam, The Netherlands ⁴ Department of Cardiothoracic Surgery, Amsterdam UMC, location Academic Medical Center, Amsterdam, The Netherlands ⁵ Department of Radiology, Amsterdam UMC, location Academic Medical Center, Amsterdam, The Netherlands ⁶ Department of Clinical Epidemiology, Biostatistics & Bioinformatics, Amsterdam UMC, location Academic Medical Center, Amsterdam, The Netherlands ⁷ Department of Surgery, Amsterdam UMC, location Academic Medical Center, Amsterdam, The Netherlands ⁸ Netherlands Heart Institute, Utrecht, The Netherlands ⁹ Thermo Fisher Scientific, San Jose, USA ¹⁰ St George's, University of London, London, UK 	ds nds er,
20:00	Conference dinner and young investigator prize giving	Old Hall

FRIDAY 7 SEPTEMBER:

07:00 - 08:30	Breakfast (Queens residents only)	Cripps Dining Hall
07:30 - 08:30	BAS Committee meeting	Angevin Room
08:30 - 09:00	Registration	Fitzpatrick Foyer
08:30 - 09:00	Refreshments and Exhibition	Conservatory
Session 3: IDENTI	FYING AND IMAGING VULNERABLE PLAQUES	Fitzpatrick Hall
Session sponsored	by: Cardiovascular Research	
	Chairpersons: Charalambos ANTONIADES, Ziad MALLAT	
09:00 - 09:20	Discovering new biomarkers to detect the vulnerable plaque	
	Keith CHANNON (Oxford)	
09:20 - 09:30	Discussion	
09:30 - 09:50	The immune system as a target for high definition imaging of atherosclerosis	
	Zahi A. FAYAD (New York)	
09:50 - 10:00	Discussion	
10:00 - 10:20	Detecting unstable plaques in humans	
	David NEWBY (Edinburgh)	
10:20 - 10:30	Discussion	

10:30 - 11.00	Refreshments and Exhibition	Conservatory
Session 4: TREA	TING VULNERABLE PATIENTS	Fitzpatrick Hall
	Chairpersons: Jason JOHNSON, Keith CHANNON	
11.00 - 11:30	Targeting PCSK-9: Implications for basic science and upcoming challenges	
	Kausik RAY (London)	
11:30 - 11:40	Discussion	
11:40 - 12:10	Current approaches to target cardiovascular inflammation	
	Ziad MALLAT (Cambridge)	
12:10 - 12:20	Discussion	
12:20 - 12:50	2:50 Futile targeting of HDL-cholesterol: More to be learnt on structure, functions, and metabolism of H	
	Arnold VON ECKARDSTEIN (Zurich)	
12:50 - 13.00	Discussion	
13.00 - 13.10	Concluding remarks	
13.10 - 13:45	Olink sponsored lunch	Conservatory
13:45 - 15:15	Olink Biomarker Symposium	
	Solink	
	13:45 Introduction Manuel MAYR (London)	
	13:45 – 14:20 Screening for new biomarkers in patients with CAD Lars WALLENTIN (Uppsala)	
	14:20 – 14:35 Q&A	
	14:35 – 14:50 Olink: Protein Biomarker discovery and development <i>Xavier TAIT</i> (Uppsala)	
	14:50 – 15:00 Q&A	
	15:00 – 15:15 Discussion	
15:15	Meeting close and departure	