2nd Cardiovascular Research Symposium
2-3 September 2010
Austin Pearce Lecture Theatres
Faculty of Health and Medical Sciences

Organising Committee:
Ernesto Oviedo-Orta
Chris Fry
Alexandra Bermudez-Fajardo
Kikki Bodman-Smith
Rita Jabr
Bernadette Moore

Preliminary Program
September 2nd, 2010

8:00 – 9:00  Registration Open
9:00 – 9:10  Welcome (Prof. Steve Williamson Pro-VC Research and Enterprise, Univ. of Surrey)

**Day 1: Morning: Cardiac Dysfunction: from basics to bedside. Chairperson: Prof. Chris Fry**

9:10 – 10:00  Plenary Lecture “The impact of a myocardial infarction on the electrical activity of the heart”  – Prof. Godfrey Smith (Glasgow University).

10:00 – 10:15  R. P. Gray et al. (Univ. Surrey, UK)
Mechanisms underlying the increase of intracellular sodium in left ventricular hypertrophy.

10:15 – 10:30  R. I. Jabr, et al. (Univ. Surrey, UK)
Calcineurin slows myocardial action potential conduction during rapid pacing by increasing intracellular resistivity.

10:30 – 11:00  Tea/Coffee break

11:00 – 11:30  Lecture “Sepsis and the Heart”  – Prof. Marcos A Rossi (USP, Brazil)

11:30 – 11:45  M. L. Higuchi, et al. (USP, Brazil)
Myxoid degeneration in prolapsed mitral valves is associated with decreased inflammation and the presence of *Borrelia Burgdorferi* antigens.

11:45 – 12:00  C. M. Prado, et al. (USP, Brazil)
Early dystrophin disruption in the pathogenesis of experimental chronic chagas cardiomyopathy.

12:00 – 12:15  C. L. Hooper, et al. (Univ. Reading, UK)
Mechanosensing from within the focal adhesion of cardiac cells.

12:15 – 12:30  M. Miragoli, et al. (Imperial College, UK)
Transient appearance of myofibroblasts in foetal hearts promotes arrhythmias which can be prevented by ursodeoxycholic acid.

12:30 – 14:00  Lunch Break + Poster Session

**Day 1: Afternoon: Cardiovascular Genetics. Chairperson: Dr. Fiona Green**

14:00 – 14:50  Plenary Lecture “Genomics, Proteomics and other Omics in Cardiovascular Medicine”  – Prof. Anna Dominiczak (Glasgow University).

14:50 – 15:10  L. D. Beeton, et al. (Univ. Surrey, UK)
A novel approach to ANRIL structure and function using expression tiling microarrays.

15:10 – 15:30  P. Gibson, et al. (Univ. Surrey, UK)
Methadrone related long QT interval and CYP2B6 polymorphism frequencies in black African patients.

15:30 – 16:00  Tea/Coffee break

16:00 – 16:30  Lecture “Translational approaches: An ace story on small gene effects and cardiovascular phenotypes”  – Prof. Eduardo M. Krieger (USP, Brazil).

16:30 – 16:50  K. G. Jackson, et al (Univ. Reading, UK)
The leptin receptor GLN223ARG polymorphism modulates the postprandial lipaemic response in adult males.

(Closure)

19:00 – 23:00  Evening dinner – Hillside Restaurant
Day 2: Morning: Atherosclerosis and Endothelial dysfunction. Chairperson: Dr. Ernesto Oviedo-Orta

9:00 – 9:45 Plenary Lecture “The mononuclear phagocyte system, and relationship with endothelium” - Prof. Frederic Geissmann (King’s College London).

9:45 – 10:00 R. D. Santos, (USP, Brazil)
Use of imaging to track atherosclerosis: lessons from severe forms of dyslipidemia.

10:00 – 10:15 M. Spyridon, et al. (Univ. Reading, UK)
LXR as a potential anti-platelet target.

10:15 – 10:30 K. E. Swales, et al. (Univ. Surrey, UK)
Pregnane X receptor, protective regulator of the vasculature.

10:30 – 11:00 Tea/Coffee break

11:00 – 11:30 Lecture “The Role of VEGF in Cardiovascular Health and Disease” - Prof. Ian Zachary (University College London).

11:30 – 11:45 M. L. Higuchi, et al. (USP, Brazil)
Infection, coronary atherosclerosis and plaque rupture.

11:45 – 12:00 A. Bermudez-Fajardo, et al. (Univ. Surrey, UK)
Vaccination against influenza promotes stable atherosclerotic plaques in apoE−/− mice.

12:00 – 12:15 A. K. Waller, et al. (Univ. Reading, UK)
Lipoteichoic acid produced by Staphylococcus Aureus inhibits the activation of platelets.

12:15 – 13:45 Lunch Break + Poster Session

Day 2: Afternoon: Nutrition and Metabolic syndrome. Chairperson: Prof. Margot Umpleby

13:45 – 14:30 Plenary Lecture “Ethnic differences in cardiometabolic disease in the UK” - Prof. Nish Chaturvedi (Imperial College London).

14:30 – 14:45 F. Shojaee-Moradie, et al. (Univ. Surrey, UK)
Fatty acid oxidation rate is higher in obese women than obese men.

14:45 – 15:00 K. J. Newens, et al. (Univ. Reading, UK) Confirmed
Endothelial function during raised non-esterified fatty acid levels is enhanced by moderate substitution of SFA with n-3 PUFA.

15:00 – 15:15 O. A. Hakim, et al. (Univ. Surrey, UK)
Suboptimal levels of 25(OH)D are associated with poorer indices of cardiovascular health: further analysis of D-FINES study.

15:15 – 15:30 V. Calabuig-Navarro (Univ. Reading, UK)
Impact of dietary fat manipulation and apoE genotype on postprandial lipid and glucose responses in healthy men.

15:30 – 16:00 Tea/Coffee break

16:00 – 16:30 Lecture “Impact of dietary fat and carbohydrate on insulin resistance and cardiometabolic risk in the metabolic syndrome: outcome from the RISCK trial and other human dietary intervention studies” – Prof. Bruce Griffin (Univ. of Surrey).

16:30 – 16:45 M. J. Tindall (Univ. Reading, UK)
Mathematical modelling of lipoprotein metabolism.

16:45 – 17:00 R. D. Santos (USP, Brazil) Confirmed
The Finnish diabetes risk score (FINDRISC) as a marker of coronary disease risk, metabolic syndrome, subclinical inflammation and hepatic steatosis.

17:00 – 17:15 Closing remarks (Prof. Ian Kitchen, Associate Dean for Research & Enterprise, FHMS, Univ. of Surrey).

(Closure)
POSTERS

SESSION 1: CARDIAC DYSFUNCTION: FROM BASICS TO BEDSIDE

1. BACTERIAL DNA, ARCHAEAL BODIES AND COMPLEMENT ACTIVATION IN CHRONIC CHAGASIC CARDIOPATHY
M. L. Higuchi, J. Kawakami, R. N. Ikegami, M. B. M. Clementino1, F. M. Kawamoto, V. Issa and E. Bocchi.
Heart Institute (InCor), University of Sao Paulo Clinics Hospital, Sao Paulo, Brazil.

2. HISTOLOGICAL FINDINGS SUGGESTING MYXOID DEGENERATION IN PROLAPSED MITRAL VALVES AS AN INFLAMMATORY PROCESS
Heart Institute (InCor), University of Sao Paulo Clinics Hospital, Sao Paulo, Brazil.

3. POSSIBLE ROLE OF MICROORGANISM SYMBIOSIS IN THE DEVELOPMENT OF CHRONIC CHAGASIC CARDIOPATHY
M. L. Higuchi, J. Kawakami, R. N. Ikegami, M. B. M. Clementino, F. M. Kawamoto, V. Issa and E. Bocchi.
Heart Institute (InCor), University of Sao Paulo Clinics Hospital, Sao Paulo, Brazil.

4. DISRUPTION OF DYSTROPHIN AND β-DYSTROGLYCAN MAY BE INVOLVED IN DOXORUBICIN-INDUCED CARDIOMYOPATHY IN RATS
E. C. Campos (1), J. L. O'Connell (2), L. M. Malvestio (1), C. M. Prado (1), M. R. N. Celes (1), M. V. Simões (2) and M. A. Rossi (1).
(1) Department of Pathology (Cellular and Molecular Cardiology), Faculty of Medicine of Ribeirão Preto and (2) University Hospital (Division of Cardiology), Faculty of Medicine of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP, Brazil.

5. FUNCTIONAL CHARACTERISATION OF CONNEXIN EXPRESSION AND CO-EXPRESSION IN HL-1 ATRIAL MYOCYTE CELL LINE
P. Dias (1), T. Desplantez (1) and E. Dupont (2).
(1) Imperial College London, National Heart and Lung Institute, London and (2) Postgraduate Medical School, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.

6. TOWARDS STRUCTURAL STUDIES ON HUMAN SARCOENDOPLASMIC Ca2+ ATPASE PUMP 2 (HSERCA2)
A. Antaloae (1), T. Sorensen (2) and K. Watson (1).
(1) School of Biological Sciences, Whiteknights Campus, University of Reading, Reading, RG6 6AS, UK. (2) Diamond Light Source, Didcot, Oxfordshire, OX11 0DE, UK.

7. AGE-ASSOCIATED CHANGES IN GAP JUNCTION CONDUCTANCE AND CONNEXIN EXPRESSION IN HUMAN RIGHT ATRIUM
F. S. Dhillon (1), R. Chowdhry (1), N. S. Peters (1) and C. H. Fry (2).
(1) National Heart and Lung Institute, Imperial College, London, (2) PGMS, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7WG, UK.

8. MODULATION OF THE STAIRCASE RESPONSE IN MOUSE MYOCARDIUM BY ISOPRENALINE
PGMS, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.

9. MEASUREMENT OF THE ELECTRICAL PROPERTIES OF CULTURED MYOCYTES USING DIELECTROPHORESIS
(1) PGMS, Faculty of Health and Medical Sciences and (2) Centre for Biomedical Engineering, Engineering and Physical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.

SESSION 3: ATHEROSCLEROSIS AND ENDOTHELIAL DYSFUNCTION

10. EFFECT OF IMMUNISATION WITH CHLAMYDIA PNEUMONIAE RECOMBINANT MOMP ON ATHEROSCLEROSIS DEVELOPMENT
R. El Kadri (1), A. Bermudez-Fajardo (1), M. Puolakkainen (2), G. Stewart (1) and E. Oviedo-Orta (1).
(1) Microbial Science Division, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK. (2) Department of Viral Diseases and Immunology, NPHI, Helsinki, Finland.
11. STUDY OF THE IMMUNOMODULATORY PROPERTIES OF THE MAJOR OUTER MEMBRANE PROTEIN (MOMP) OF CHLAMYDOPHILA PNEUMONIAE IN THE CONTEXT OF ATHEROSCLEROSIS
Microbial Science Division, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.

12. STATINS MODIFY CONNEXIN EXPRESSION IN ACTIVATED HUMAN MACROPHAGES
R. J. Anicattu Issac (1), A. Bermudez-Fajardo (1), C.H. Fry (2) and E. Oviedo-Orta (1).
(1) Microbial Sciences Division and (2) Post Graduate Medical School; Faculty of Health and Medical Sciences, University of Surrey; Guildford, Surrey, GU2 7XH, UK.

13. STATINS ALTER CONNEXIN EXPRESSION AND T CELL PROLIFERATION IN VITRO
R. J. Anicattu Issac (1), A. Bermudez-Fajardo (1), C.H. Fry (2) and E. Oviedo-Orta (1).
(1) Microbial Sciences Division and (2) Post Graduate Medical School; Faculty of Health and Medical Sciences, University of Surrey; Guildford, Surrey, GU2 7XH, UK.

14. TH17 CELLS INDUCTION ACCELERATED ATHEROSCLEROSIS DEVELOPMENT IN APOE^{-} MICE
R. Mohamed, A. Bermudez-Fajardo and E. Oviedo-Orta.
Microbial Sciences Division, Faculty of Health and Medical Sciences, University of Surrey; Guildford, Surrey, GU2 7XH, UK.

15. STIMULATION OF TH17 CELLS PROLIFERATION BY OXIDISED LDL-LOADED DENDRITIC CELLS
R. Mohamed, A. Bermudez-Fajardo and E. Oviedo-Orta.
Microbial Sciences Division, Faculty of Health and Medical Sciences, University of Surrey; Guildford, Surrey, GU2 7XH, UK.

16. OXIDIZED LDL IS INCREASED IN THE LIVER OF NON HEPATIC DISEASE PATIENTS AND IT MAY CONTRIBUTE FOR DEVELOPMENT OF VULNERABLE PLAQUES WITH LOW PPAR GAMMA CONTENT
M. L. Higuchi (1), E. M. Boteon (1), M. M. Reis (1), S. A. P. Palomino (1), R. Ikegami (1), R. Otsubo (1), T. Mauad (2), D. S. P. Abdalla (3) and J. A. F. Ramires (1).
(1) Heart Institute (InCor) - University of Sao Paulo Clinics Hospital, Sao Paulo, Brazil; (2) Medical School, University of Sao Paulo, Sao Paulo, Brazil; (3) School of Pharmaceutical Sciences of University of Sao Paulo, Sao Paulo, Brazil.

17. ARE CD4+CD25+FOXP3+ REGULATORY T CELLS PRESENT IN EXPERIMENTAL RABBIT ATHEROSCLEROTIC LESIONS?
J. Sier (1), S. V. D. Boomen (1), L. Beeton (1), G. Ferns (2) and S. Shafi (1).
(1) Biochemical Sciences Division, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK. (2) Institute for Science & Technology in Medicine, University of Keele, Guy Hilton Research Centre, Stoke-on-Trent, Staffordshire, UK.

18. IDENTIFICATION OF NOVEL SIGNALLING PROTEIN CLUSTERS IN PLATELETS BY IN SILICO ANALYSIS OF PROTEOMICS DATA
Institute for Cardiovascular and Metabolic Research, School of Biological Sciences, University of Reading, BERKS, Reading, RG6 6UB, UK.

19. HEAT SHOCK PROTEIN 47: A NEW PLATELET COLLAGEN RECEPTOR
W. J. Kaiser (1), T. Sage (1), P. Sasikumar (1), C. F. Kemp (2), N. Pugh (3), L. Dobson (1), L. Holbrook (1) and J. M. Gibbins (1).
(1) Institute for Cardiovascular and Metabolic Research, School of Biological Sciences, Hopkins Building, The University of Reading, Whiteknights, Reading, RG6 6UB, UK; (2) The BioCentre, Harborne Building, The University of Reading, Whiteknights, Reading, RG6 6AS, UK; (3) Department of Biochemistry, University of Cambridge, Downing Site, Cambridge CB2 1QW, UK.

20. EFFECT OF SLEEP DEPRIVATION ON HEART RATE VARIABILITY AND ENDOTHELIAL FUNCTION IN SHIFT WORKERS AND NON-SHIFT WORKERS
S. M. T. Wehrens, S. M. Hampton and D. J. Skene.
Centre for Chronobiology, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.
21. PECAM-1 REGULATES PLATELET FUNCTION BY MODULATING THE LAT SIGNALOSOME IN GPVI STIMULATED PLATELETS
Institute for Cardiovascular and Metabolic Research, School of Biological Sciences, Hopkins Building, University of Reading, Whitneyerts, Reading, RG6 6BU, UK.

22. HEAT SHOCK PROTEIN 27 AND THE MACROPHAGE IMMUNE RESPONSE
D. F. Pengiran Burut (1), S. Shafi (1) and G. Ferns (2).
(1) Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK. (2) Institute of Science & Technology in Medicine, University of Keele, Guy Hilton Research Centre, Thornburrow Drive, Stoke on Trent, Staffordshire, UK.

23. SERUM HEAT SHOCK PROTEIN 27 IS RAPIDLY CLEARED BY THE IMMUNOGLOBULIN M ANTIBODIES IN PATIENTS WITH AN ACUTE MYOCARDIAL INFARCTION
D. F. Pengiran Burut (1), S. Shafi (1) and G. Ferns (2).
(1) Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK. (2) Institute of Science & Technology in Medicine, University of Keele, Guy Hilton Research Centre, Thornburrow Drive, Stoke on Trent, Staffordshire, UK.

24. OLDER AGE AND HIGHER CHOLESTEROL LEVELS ARE INDEPENDENTLY ASSOCIATED WITH THE PRESENCE OF ATHEROSCLEROTIC PLAQUES DETECTED BY COMPUTED TOMOGRAPHY CORONARY ANGIOPHGRAPHY IN FAMILIAL HYPERCHOLESTEROLEMIA
Lipid Clinic Heart Institute (InCor) University of Sao Paulo Medical School Hospital and Preventive Medicine Center Albert Einstein Hospital , Sao Paulo, Brazil.

25. C-REACTIVE PROTEIN MODULATES HAEMOSTATIC FACTOR PRODUCTION BY ENDOTHELIAL CELLS VIA Fc RECEPTORS
M. Shahidi, E. Oviedo-Orta and K. Bodman-Smith.
Division of Microbial Sciences, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.

SESSION 4: NUTRITION AND METABOLIC SYNDROME

26. MEASUREMENT OF EXOGENOUS AND ENDOGENOUS TRIACYLGLYCEROL KINETICS USING STABLE ISOTOPE TECHNIQUES IN HUMAN SUBJECTS
Cardiovascular Disease, Obesity and Metabolism Theme, Postgraduate Medical School, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.

27. CARDIOVASCULAR RISK IN WOMEN WITH POLYCYSTIC OVARY SYNDROME (PCOS)
Nutritional Sciences Division, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK.

28. PREBETA AND ALPHA HDL KINETICS MEASURED BY A STABLE ISOTOPIC AND TWO STEP ELECTROPHORESIS TECHNIQUE
X. Li, M. Stolinski, N. C. Jackson and A. M. Umpleby.
Diabetes and Metabolic Medicine, Postgraduate Medical School, Faculty of Health and Medical Sciences, University of Surrey, Daphne Jackson Rd, Manor Park, Guildford, Surrey, GU2 7WG, UK.

29. PROTEOMIC PROFILING OF LIPID LOADING IN HUMAN HEPATOCYTES
C. Spanos (1), M.E. Weeks (2) and J. B. Moore (1).
(1) Nutritional Sciences Division, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH, UK. (2) Veterinary Laboratories Agency, New Haw KT15 3NB, UK.

30. POORER LIPID PROFILE ARE ASSOCIATED WITH INCREASED BONE RESORPTION AND PARATHYROID HORMONE: PRELIMINARY RESULTS OF THE D-FINES STUDY
(1) Faculty of Health and Medical Sciences, University of Surrey, Guildford GU2 7XH, (2) Postgraduate Medical School, University of Surrey, Guildford GU2 7XH, (3)University of Sheffield, Sheffield. 4Vitamin D Research Group, University of Manchester M13 9WL, UK.
31. ANGIOTENSIN 1 CONVERTING ENZYME (ACE) INHIBITORY ACTIVITY AND ANTIOXIDANT BEHAVIOUR OF ATLANTIC MACKEREL PEPTIDES
N. K. Howell and C. Kasase.
Division of Nutrition, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey GU2 7XH, UK.

32. IMPACT OF INCREASING DOSES OF FLAVONOID-RICH AND FLAVONOID-POOR FRUITS AND VEGETABLES ON ANTIOXIDANT STATUS IN HUMANS- FLAVURS STUDY
Y. N. Jin.
Department of Food and Nutritional Sciences, University of Reading, Reading, Berks.

33. DIVAS FOOD EXCHANGE MODEL TO ENABLE INVESTIGATION OF THE EFFECTS OF DIETS DISTINCT IN FATTY ACID COMPOSITION (SFA, MUFA, N-6 PUFA) ON VASCULAR FUNCTION
M. Weech (1), K. Vafeiadou (1), K. G. Jackson (1,2), P. Yaqoob (1,2), S. Todd (3), J. A. Lovegrove (1,2).
(1) Hugh Sinclair Unit of Human Nutrition, Department of Food and Nutritional Sciences; (2) Institute of Cardiovascular and Metabolic Research (ICMR), University of Reading, Reading, UK; (3) Medical and Pharmaceutical Statistics Research Unit, School of Biological Sciences, University of Reading, UK.

34. THE IMPACT OF WHOLE GRAINS AND THEIR CONSTITUENTS ON MARKERS OF VASCULAR HEALTH AND METABOLISM – AN EX VIVO AND IN VITRO STUDY
Division of Microbial Sciences, Faculty of Health and Medical Sciences, University of Surrey, Guildford, Surrey, GU2 7XH.