



JOINT AUTUMN MEETING 2006

Queens' College, Cambridge, UK

Thursday 21 – Friday 22 September 2006

- PROGRAMME – FINAL ANNOUNCEMENT

“BIOMECHANICAL SIGNALLING IN ATHEROSCLEROSIS”

ORGANISERS: Dorian Haskard, Peter Weinberg, Qingbo Xu

CPD applied for

THURSDAY 21 SEPTEMBER:

09.30-10.30 REGISTRATION AND REFRESHMENTS

10.30 Welcome and Introduction

Session 1 Blood flow and lesion distribution

Chairperson: Chris Newman

10.30 – 11.00 **PATTERNS OF ARTERIAL BLOOD FLOW, DISEASE AND WALL PERMEABILITY**
Peter Weinberg (London, UK)

11.00 – 11.10 Discussion

11.10 – 11.40 **USE OF 3D GEOMETRY AND SWIRLING FLOW TO PREVENT GRAFT FAILURE**
Colin Caro / Nick Cheshire (London, UK)

11.40 – 11.50 Discussion

11.50 – 12.20 **THE ROLE OF SHEAR STRESS IN ATHEROSCLEROSIS**
Rob Krams (Rotterdam, THE NETHERLANDS)

12.20 – 12.30 Discussion

12.30 – 13.45 LUNCH

13:10-13:45 BSCR AGM

Session 2 Mechanotransduction and signalling

Chairperson: Dorian Haskard

13.45 – 14.15 **SHEAR STRESS-RELATED SIGNALLING IN ENDOTHELIAL CELLS AND ITS MODULATION BY MATRIX PROTEINS**
Martin Schwartz (Charlottesville, USA)

14.15 – 14.30 Discussion

14.30 – 15.00 **MECHANICAL STRESS AND VASCULAR REMODELLING**
Alain Tedgui (Paris, FRANCE)

15.00 – 15.15 Discussion

15.15 – 15.45 **EFFECTS OF SHEAR STRESS ON CYTOPROTECTIVE GENE EXPRESSION IN ENDOTHELIAL CELLS**
Justin Mason (London, UK)

15.45 – 16.00 Discussion

16.00 – 16.30 REFRESHMENT BREAK

Chairperson: Keith Channon

16.30 – 17.30 **SYMPOSIUM: STENTS: MECHANICAL INFLUENCES ON THE CELL**

16.30 Welcome and Setting the Scene

16.35 **STENT STRETCH: THE STENT ARTERY INTERFACE**

Dr Julian Gunn (Sheffield, UK)

16.45 **BIOMECHANICAL SIGNAL TRANSDUCTION - DISTINCT MECHANISMS AND SELECT INTERMEDIATES**

Professor Eva Qwarnstrom (Sheffield, UK)

17.00 Discussion

17.05 **THE GROWTH OF MESENCHYMAL STEM CELLS IN CULTURE WITH THEIR PHYSICAL ENVIRONMENT**

Dr Andy Scott (Sheffield, UK)

17.20 Discussion

17.25 Conclusion

Chairperson: Keith Channon

17.30 – 18.15 *Hugh Sinclair Lecture:*
ROLE OF MECHANOTRANSDUCTION IN FEDBACK CONTROL OF INTRACELLULAR MECHANICS AND SIGNALLING
Shu Chien (La Jolla, USA)

18.15 – 18.30 Discussion

19:00 Poster Session
Conference dinner pre-dinner drinks

19.45 Conference dinner

FRIDAY 22 SEPTEMBER:

Session 3 Flow and progenitor cell differentiation

Chairperson: Sarah George

09.00 – 09.30 **BIOMECHANICAL STRESS-INDUCED STEM CELL DIFFERENTIATION IN VIVO AND IN VITRO**
Qingbo Xu (London, UK)

90.30 – 09.45 Discussion

09.45 – 10.15 **EPIGENETIC REPROGRAMMING DURING DIFFERENTIATION OF MOUSE EMBRYONIC STEM CELLS: ROLE OF NITRIC OXIDE AND HISTONE DEACETYLASES**
Carlo Gaetano (Rome, ITALY)

10.15 – 10.30 Discussion

10.30 – 11.00 REFRESHMENT BREAK

Session 4 Free communications

Chairperson: Peter Weinberg

11.10-12.40 FREE COMMUNICATIONS

11.10-11.20 **CD59 PROTECTS AGAINST LESION FORMATION IN LDL RECEPTOR DEFICIENT MICE: EVIDENCE FOR COMPLEMENT ACTIVATION IN ATHEROGENESIS**

S Yun, V Leung, M Botto, DO Haskard, JJ Boyle
BHF Cardiovascular Medicine and Rheumatology Units, Imperial College Hammersmith Campus,
London, UK*

11.20-11.25 Discussion

11.25-11.35	TETRAHYDROBIOPTERIN-DEPENDENT eNOS COUPLING MEDIATES ENDOTHELIAL REGENERATION AND ATTENUATES VEIN GRAFT ATHEROSCLEROSIS IN APOE-KO MICE <i>ZA Ali¹, NJ Alp¹, Y Hu², Q Xiao², AL Tatham¹, AM Akthar¹, DR Greaves¹, Q Xu², KM Channon¹</i> ¹ Cardiovascular Medicine, University of Oxford and ² Cardiological Sciences, St Georges Hospital, UK
11.35-11.40	Discussion
11.40-11.50	SHEAR STRESS MODULATES ENDOTHELIAL RESPONSES TO TNFα BY SUPPRESSING PRO-INFLAMMATORY TRANSCRIPTS AND ENHANCING CYTOPROTECTIVE TRANSCRIPTS <i>J Partridge, K Enesa, A Kinderlerer, M Johns, JC Mason, DO Haskard, PC Evans*</i> <i>BHF Cardiovascular Medicine, Imperial College, Hammersmith Campus, London, UK</i>
11.50-11.55	Discussion
11.55-12.05	INFLAMMATORY RESPONSES OF ENDOTHELIAL CELLS AFTER CESSATION OF FLOW <i>N Matharu, R Vohra, GE Rainger, GB Nash*</i> <i>Centre for Cardiovascular Sciences, Division of Medical Sciences, The Medical School, University of Birmingham, UK</i>
12.05-12.10	Discussion
12.10-12.20	INCREASED ATHEROSCLEROSIS AND TH1-17 INFILTRATES IN INTERLEUKIN-18 (IL-18) DEFICIENT APOLIPOPROTEIN E-KNOCKOUT MICE FED HIGH-FAT DIET <i>N Pejinovic¹, A Vratimos¹, D Popadic¹, SH Lee¹, K Takeda², S Akira², WL Chan^{1*}</i> <i>1 Biochemical Pharmacology, W.H.R.I, Barts And The London Medical School, UK</i> <i>2 Department of Host Defence, Research Institute for Microbial Diseases, Osaka University, Japan</i>
12.20-12.25	Discussion
12.25-12.35	COMPUTATIONAL INVESTIGATION OF A MECHANISM BY WHICH BLOOD FLOW COULD CONTROL LIPOPROTEIN UPTAKE BY THE ARTERIAL WALL <i>PE Vincent¹, S J Sherwin¹, P D Weinberg²</i> <i>Department of Aeronautical Engineering¹ and Department of Bioengineering², Imperial College London, South Kensington Campus, London, UK</i>
12.35-12.40	Discussion
12:40 – 13:40	LUNCH
	<u>Session 5 Vascular mechanotransduction: genomic, proteomic and siRNA approaches</u>
	Chairperson: Qingbo Xu
13.40 – 14.10	GENOMIC APPROACHES TO MECHANOTRANSDUCTION IN ENDOTHELIAL CELLS <i>Peter Davies (Philadelphia, USA)</i>
14.10 – 14:25	Discussion
14.25 – 14:55	PROTEOMIC APPROACHES TO MECHANOTRANSDUCTION IN SMOOTH MUSCLE CELLS <i>Manuel Mayr (London, UK)</i>
14.55 – 15.10	Discussion
15.10 – 15.40	SIRNA APPROACHES TO MECHANOTRANSDUCTION IN ENDOTHELIAL AND SMOOTH MUSCLE CELLS <i>Paul Cahill (Dublin, IRELAND)</i>
15.40 – 15.55	Discussion
15.55	Concluding remarks:
16:00	Award of prizes and close of meeting

Meeting Secretariat:

Wheldon Events & Conferences

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