

What's on today?

- 08.45 **Symposia**
All Lecture Theatres
Pages 21–27
- 12.30 **Paton Prize Lecture**
Lecture Theatre 1 – *University Museum of Natural History*
Page 13
- 14.30 **Oral Communications C1–C36**
All Lecture Theatres
Pages 29–34
- 16.00 **Poster Communications PC1–PC121**
Marquee behind University Club
Pages 35–51
- 18.00 **Annual Public Lecture of The Physiological Society**
The Sheldonian Theatre, Broad Street
Page 14
- 19.00 **Welcome Reception**
University Museum of Natural History
Page 116

Tuesday 12 July

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Stem cell therapy for the heart

Cardiac & Respiratory Physiology

Tuesday 12 July 2011

LT1 (University Museum of Natural History)

Organised by Kieran Clarke and Carolyn Carr, *University of Oxford, UK*

08.45 Welcome and introduction by the organisers

09.00 **The origins of cardiac stem cells**

SA5 Roger Patient, *University of Oxford, UK*

09.30 **Human embryonic stem cell-derived cardiomyocytes**

SA6 Sian Harding, *Imperial College London, UK*

10.00 **Adult epicardium-derived progenitor cells**

SA7 Nicola Smart, *University College London, UK*

10.30 Refreshments in the Marquee behind University Club

11.15 **Stem cell-based myocardial tissue engineering**

SA8 Wolfram-Hubertus Zimmermann, *Georg-August-University, Göttingen, Germany*

11.45 **Bone marrow stem cell therapy – a clinical viewpoint**

SA9 Anthony Mathur, *Queen Mary, University of London, UK*

Smooth muscle and endothelial cell signaling microdomains: Implications for vascular function

Vascular & Smooth Muscle Physiology

Tuesday 12 July 2011

LT2 (Experimental Psychology A)



Sponsored by DMT

Organised by Ron Lynch, *University of Arizona, Tucson, USA*, and Christopher Garland, *University of Oxford, UK*

08.45 Welcome and introduction by the organisers

09.00 **NAADP-mediated local calcium signaling via endolysosomal two-pore channels**
SA10
Anthony Galione, *University of Oxford, UK*

09.30 **Caveolins in cardiovascular cells: SUMOylation as a novel regulator**
SA11
Paul Insel, *University of California, San Diego, USA*

10.00 **Local calcium signalling through TRPV4 channels and IP3Rs in the vascular endothelium**
SA12
Mark Nelson, *University of Vermont, USA*

10.30 Refreshments in the Marquee behind University Club

11.15 **Endothelial cell microdomains and integrated vascular dilatation**
SA13
Kim Dora, *University of Oxford, UK*

11.45 **Organization of calcium signaling pathways: Coupling of active Na⁺ transport, calcium signaling and glycolysis in cells of the vasculature**
SA14
Ron Lynch, *University of Arizona, Tucson, USA*

Symposium

VS

Today's **Vascular & Smooth Muscle Physiology** Oral Communications will be held in this lecture theatre from 14.30, see page 30

Reading the brain

Cellular & Integrative Neuroscience

Tuesday 12 July 2011

LT3 (Large lecture theatre Sherrington Building)

Organised by Jan Schnupp and Benjamin Willmore, *University of Oxford, UK*

08.45 Welcome and introduction by the organisers

09.00 **Listening to auditory cortex: neural correlates of pitch perception**

SA15 Jennifer Bizley, *University of Oxford, UK*

09.30 **Predicting perceptual decisions from the activity of individual sensory neurons: does it imply a causal role of these neurons?**

SA16 Hendrikje Nienborg, *Salk Institute, La Jolla, USA*

10.00 **Decoding the cortical computations that support 3-D vision**

SA17 Andrew Welchman, *University of Birmingham, UK*

10.30 Refreshments in the Marquee behind University Club

11.15 **Living on the edge – how evidence, reward, and electrical stimulation affect decision making**

SA18 Kristine Krug, *University of Oxford, UK*

11.45 **Sensory decision making in the human brain: From perception to valuation**

SA19 Hauke Heekeren, *Freie Universitaet Berlin, Germany*

Today's Cellular & Integrative Neuroscience Oral Communications will be held in this lecture theatre from 14.30, see page 31

For details of the Lecture Theatres, see page 8

Neural control of the circulation: Exercise

Human & Exercise Physiology

Tuesday 12 July 2011

Experimental
Physiology

Sponsored by *Experimental Physiology*

LT4 (Pharmacology lecture theatre)

Organised by Peter Raven, *University of North Texas, Health Science Center at Fort Worth, USA*, and David Paterson, *University of Oxford, UK*

08.45 Neural control of the circulation during exercise

SA20 Jere H Mitchell, *University of Texas, USA*

09.00 Central command: feedforward control of sympathetic and parasympathetic outflows and the arterial baroreflex during spontaneous motor activity in animals

SA21

Kanji Matsukawa, *Hiroshima University, Japan*

09.30 Identifying the neurocircuitry underpinning 'central command' during exercise in humans

SA22

David Paterson, *University of Oxford, UK*

10.00 Role played by the ASIC and P2X receptors in evoking the exercise pressor reflex in animals

SA23

Marc Kaufman, *Penn State Milton S Hershey Medical Center, USA*

10.30 Refreshments in the Marquee behind University Club

11.15 Human investigations into the exercise pressor reflex in health and disease

SA24

Niels H Secher, *University of Copenhagen, Denmark*

11.45 Human investigations into the arterial and cardiopulmonary baroreflex: Exercise

SA25

Paul J Fadel, *University of Missouri, USA*

Symposium

HE

Today's **Human & Exercise Physiology** Oral Communications will be held in this lecture theatre from 14.30, see page 32

Proton signals and sensors

Metabolism & Endocrinology

Tuesday 12 July 2011

LT5 (Lecture theatre Le Gros Clark)

Organised by Richard Vaughan-Jones, *University of Oxford, UK*

-
- 08.45** Welcome and introduction by the organisers
-
- 09.00** **Molecular mechanism and function of acid-sensing channels (ASICs)**
SA26
Michel Lazdunski, *Université Nice Sophia Antipolis, France*
-
- 09.30** **G protein-coupled proton receptors: Expression, characterisation & function**
SA27
Klaus Seuwen, *Novartis Institutes for BioMedical Research, Basel, Switzerland*
-
- 10.00** **Role of carbonic anhydrase IX in the control of intracellular and extracellular pH in three-dimensional tumour cell growths**
SA28
Pawel Swietach, *University of Oxford, UK*
-
- 10.30** Refreshments in the Marquee behind University Club
-
- 11.15** **Proton translocation by the voltage-gated proton channel Hv1: insights from molecular simulations**
SA29
Mark Sansom, *University of Oxford, UK*
-
- 11.45** **Proton-coupled Ca²⁺ signaling in heart: role of Na⁺-H⁺ exchange, mitochondria, and the L-type Ca²⁺ channel**
SA30
Richard Vaughan-Jones, *University of Oxford, UK*
-

Local and systemic implications of epithelial transport regulation

Epithelia & Membrane Transport

Tuesday 12 July 2011

Joint International Exchange
Symposium with the German
Physiological Society (Deutschen
Physiologischen Gesellschaft)

LT6 (Experimental Psychology B)

Organised by Christoph Korbmacher, *Friedrich-Alexander-University of Erlangen-Nürnberg (FAU), Germany*, and Richard Boyd, *University of Oxford, UK*

-
- 08.45** Welcome and introduction by the organisers
-
- 08.50** **Tales of tails: AE1 and its polarized pathway**
SA31 Fiona Karet, *University of Cambridge, UK*
-
- 09.15** **Renal acid excretion – mechanisms and diseases**
SA32 Carsten Wagner, *University of Zürich, Switzerland*
-
- 09.40** **Extracellular nucleotides and renal function**
SA33 Robert Unwin, *University College London, UK*
-
- 10.05** **Cleavage as a signal to activate the epithelial sodium channel (ENaC)**
SA34 Christoph Korbmacher, *Friedrich-Alexander-University of Erlangen-Nürnberg (FAU), Germany*
-
- 10.30** Refreshments in the Marquee behind University Club
-
- 11.15** **BLINaC: a novel epithelial Na⁺ channel in the liver**
SA35 Stefan Gründer, *RWTH Aachen University, Germany*
-
- 11.40** **Proton-assisted amino acid transporters: novel intracellular regulators of mTORC1 signalling in health and disease**
SA36 Deborah Goberdhan, *University of Oxford, UK*
-
- 12.05** Concluding remarks by the organisers
-

Final year research projects: Challenges and opportunities

Teaching Symposium

Tuesday 12 July 2011



Sponsored by ADInstruments

LT7 (Restaurant, University Club)

Organised by Judy Harris, *University of Bristol, UK*

08.45 Welcome and introduction by the organisers

09.00 **Positives and negatives of running undergraduate Final**
SA37 Honours School experimental projects
Jeremy Taylor, *University of Oxford, UK*

09.30 **Physiology teachers of tomorrow**
SA38 Lauren Hughes, *University of Bristol, UK*

10.00 **Surely there must be an alternative?**
SA39 Dave Lewis, *University of Leeds, UK*

10.30 Refreshments in the Marquee behind University Club

11.15 **Student research projects at the beginning and end of the**
SA40 biology program
Karen Carlberg, *Eastern Washington University, USA*

11.45 **Final year undergraduate project students can produce**
SA41 blended learning resources which enhance the academic
performance of undergraduate physiology students
Neil Morris, *University of Leeds, UK*

The teaching symposium will be complemented by an informal teaching workshop, see next page

LT7 – the Restaurant, University Club – is on the first floor of the University Club, the building in front of the Marquee

Today's Teaching Poster Communications will be held in the Marquee behind University Club from 16.00, see page 35

For details of the Lecture Theatres, see page 8

Teaching Workshop – 13.15–14.15

Tuesday 12 July 2011

LT7 (Restaurant, University Club)

The teaching symposium will be complemented by an informal teaching workshop. The focus for the workshop will be the recommendations in the Academy of Medical Sciences report *'Redressing the balance: the status and valuation of teaching in academic careers in the biomedical sciences'*. Copies will be available at the Workshop.

Patch Clamp Workshop

Port-a-Patch: The world's smallest patch clamp rig

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Tuesday 12 July 2011

Private Dining Room, first floor, University Club

Sandwiches and drinks available whilst you patch clamp!

13.30 Introduction to automated electrophysiology

13.45 Hands on recording from the Port-a-Patch with cells and vesicles

14.30 End

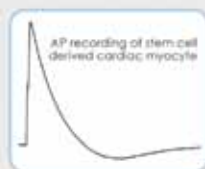
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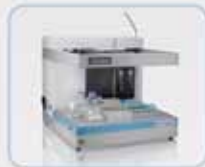


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Oral Communications

Cardiac & Respiratory Physiology

Tuesday 12 July 2011

LT1 (University Museum of Natural History)

The names below are the presenting authors, for a full list of authors see the abstract

-
- C1
14.30 **Ischaemic preconditioning prevents the differentiation induced by ischaemia/reperfusion injury of rat cardiac fibroblasts into myofibroblasts**
Kartika Pertiwi
-
- C2
14.45 **Quantification of cardiomyocyte proliferation during early development and following heart laser injury in zebrafish embryo**
Gianfranco Matrone
-
- C3
15.00 **Using endothelial progenitor cells as a genetic shuttle to alter central control of cardiovascular function in conscious rats**
Ana Maria Alviar Baquero
-
- C4
15.15 **Peripheral cardiac sympathetic dysfunction in the pre-hypertensive spontaneously hypertensive rat**
Neil Herring
-
- C5
15.30 **Synaptic profile of Nucleus Tractus Solitarius neurons involved with the peripheral chemoreflex pathways in rats**
Daniela Accorsi-Mendonca
-
- C6
15.45 **Does the dorsal motor nucleus of the vagus control cardiac chronotropism?**
Lauren Salo
-

Today's [Cardiac & Respiratory Physiology](#) Poster Communications will be held in the Marquee behind University Club from 16.00, see page 37

For details of the Lecture Theatres, see page 8

Oral Communications

Vascular & Smooth Muscle Physiology

Tuesday 12 July 2011

LT2 (Experimental Psychology A)

The names below are the presenting authors, for a full list of authors see the abstract

-
- C7 **Short term statin treatment does not affect blood pressure in 5 week old rats**
14.30 Piia Keskiivali
-
- C8 **Gestational diabetes impairs Nrf2/ARE mediated redox signalling in fetal endothelial cells: implications for developmental priming of endothelial dysfunction in offspring**
14.45 Xinghua Cheng
-
- C9 **Nitric oxide induces nuclear translocation of β -catenin in human umbilical vein endothelial cells**
15.00 Nan Chen
-
- C10 **Maternal dietary high fat impairs vascular function in offspring**
15.15 Christopher Kelsall
-
- C11 **Investigating the physiology of diabetic pregnancies – myometrial contractility and the effects of insulin**
15.30 Amanda Heath
-
- C12 **Adrenomedullin 2 enhances macrovascular endothelial barrier function while it disrupts coronary microvascular barrier via differential regulation of Rac1**
15.45 Muhammad Aslam
-

Oral Communications

Cellular & Integrative Neuroscience

Tuesday 12 July 2011

LT3 (*Large lecture theatre Sherrington Building*)

The names below are the presenting authors, for a full list of authors see the abstract

-
- C13 **Phospholipid activation of M-type potassium channels**
14.30 Vsevolod Telezhkin
-
- C14 **A novel viral tool to study ATP-mediated signalling in the brain**
14.45 Melina Figueiredo
-
- C15 **VEGF-A₁₆₅b is neuroprotective in *in vitro* models of diabetic and chemotherapy-induced sensory neuropathy and prevents ipsilateral DRG ATF-3 upregulation after nerve injury *in vivo***
15.00 Nicholas Beazley-Long
-
- C16 **Integration strategies of pyramidal cells and Nkx2-1 interneurons in the early postnatal neocortex**
15.15 Paul Anastasiades
-
- C17 **Multi-channel electrophysiology suggests a functional laminar organisation within the superficial layer of the mouse superior colliculus**
15.30 Ian Thompson
-
- C18 **Alpha band synchronisation in the reticular activating system and globus pallidus during anaesthesia-induced loss of consciousness in humans**
15.45 Jonathan Hyam
-

Today's Cellular & Integrative Neuroscience Poster Communications will be held in the Marquee behind University Club from 16.00, see page 40

For details of the Lecture Theatres, see page 8

Oral Communications

Human & Exercise Physiology

Tuesday 12 July 2011

LT4 (Pharmacology lecture theatre)

The names below are the presenting authors, for a full list of authors see the abstract

-
- C19 **Muscle afferent feedback contributions to ventilatory and cardiovascular control in humans**
14.30 Richard Bruce
-
- C20 **The influence of systemic sympathetic activity on cerebral blood flow and cerebrovascular reactivity at rest and during exercise: Alterations with ageing**
14.45 Samuel Lucas
-
- C21 **Cerebral blood flow in heart transplant recipients: rest and during exercise**
15.00 Jonathan Smirl
-
- C22 **Pericellular Ca²⁺ recycling potentiates thrombin-evoked Ca²⁺ signals in human platelets**
15.15 Richard Farndale
-
- C23 **Exercise-induced oxidative-nitrosative stress is associated with impaired dynamic cerebral autoregulation and blood-brain barrier integrity**
15.30 Damian Bailey
-
- C24 **Exercise increases endothelial nitric oxide synthase phosphorylation in the microvasculature and sarcolemma of human skeletal muscle**
15.45 Matthew Cocks
-

Oral Communications

Metabolism & Endocrinology

Tuesday 12 July 2011

LT5 (Lecture theatre Le Gros Clark)

The names below are the presenting authors, for a full list of authors see the abstract

C25
14.30 **Identification of Calcium-Sensing Receptor^{S875} as a novel phosphorylation site contributing to the feedback regulation of receptor activity**
Katherine Campion

C26
14.45 **Pepsinogen is nitrated in the stomach *in vivo*: a dual function for dietary nitrate with functional and physiological consequences**
Bárbara S Rocha

C27
15.00 **Lipopolysaccharide-induced endotoxaemia reduces the maximal rate of mitochondrial ATP production in rat skeletal muscle and this effect is specific to the pyruvate dehydrogenase complex**
Ryan Atkins

C28
15.15 **Murine I-cells express G-Protein Coupled Lipid Receptors GPR40, GPR119 and GPR120 mRNA transcripts**
Alexandros Sykaras

C29
15.30 **The effects of *syzygium aromaticum* derived oleanolic acid on glucose transport across rat-everted intestinal sacs *in vitro***
Cephas Musabayane

C30
15.45 ***In vivo* assessment of cardiac metabolism and functional derangement in the spontaneously hypertensive rat heart using hyperpolarized magnetic resonance spectroscopy and CINE-MR imaging**
Michael Dodd

Today's **Metabolism & Endocrinology** Poster Communications will be held in the Marquee behind University Club from 16.00, see page 47

For details of the Lecture Theatres, see page 8

Oral Communications

Epithelia & Membrane Transport

Tuesday 12 July 2011

LT6 (Experimental Psychology B)

The names below are the presenting authors, for a full list of authors see the abstract

-
- C31
14.30 **Human genetic mutations causing increased permeability to monovalent cations across the red cell membrane**
Gordon Stewart
-
- C32
14.45 **Decreased abundance of proteins involved in cerebrospinal fluid production in *slc4a10* knockout mice**
Helle Damkier
-
- C33
15.00 **Hydroxylases regulate epithelial Modulator of Na⁺/K⁺-ATPase expression: implications for intestinal fluid and electrolyte transport function**
Joseph Ward
-
- C34
15.15 **Identification of two cleavage sites in the γ -subunit of the epithelial sodium channel (ENaC) with functional importance for its proteolytic activation by plasmin**
Silke Haerteis
-
- C35
15.30 **17 β -Estradiol increases amiloride-sensitive Na⁺ current and PKC δ activity in renal collecting duct M1 cells**
Manuel Yusef Robles
-
- C36
15.45 **Urinary aminopeptidase activities as early and predictive biomarkers of renal dysfunction in cisplatin-treated rats**
Rosemary Wangenstein
-

Poster Communications

Teaching

Tuesday 12 July 2011

Marquee behind University Club

The names below are the presenting authors, for a full list of authors see the abstract

-
- PC1 **Assessing students' perception of feedback**
Teresa Thomas
-
- PC2 **OeRBITAL: Open educational Resources for Bioscientists
Involved in Teaching And Learning**
Dave Lewis
-
- PC3 **Young people's perceptions of the use of animals in scientific
and medical research in the UK**
Dave Lewis
-
- PC4 **Evaluating student perceptions of a module: A modified
nominal group technique**
Clare Ray
-
- PC5 **Developing skills for the future: An alternative team-based
final year biosciences enterprise project**
Tracey Speake
-
- PC6 **Reversing the drain – educating the next generation of *in vivo*
physiologists**
Thelma Lovick
-
- PC7 **Why is undergraduate lecture attendance so poor?**
Graham Christie
-
- PC8 **Preclinical course preferences, perceptions and satisfaction**
Maureen Ebomoyi
-

Continued on the next page

-
- PC9 **A simple method for the ongoing evaluation of standard setting for one best answer exam questions**
Rohan Lewis
-
- PC10 **A life coaching approach that keeps students on track**
Laura Ginesi
-
- PC11 **The effects of closer integration of nursing and bioscience departments on student attitudes to a first year biomedical science course**
Sean Roe
-

Poster Communications

Cardiac & Respiratory Physiology

Tuesday 12 July 2011

Marquee behind University Club

The names below are the presenting authors, for a full list of authors see the abstract

-
- PC12 **The effect of vitamin B12 status and supplementation on autonomic nervous activity in a healthy elderly population**
Sucharita Sambashivaiah
-
- PC13 **Neurons from the cardiovascular region of the nucleus tractus solitarius target GABAergic and presympathetic neurons of the paraventricular nucleus of the hypothalamus**
Valarie Affleck
-
- PC14 **Effects of respiratory loading on global and stimulus evoked cerebral blood flow**
Anja Hayen
-
- PC15 **Sympathoexcitation induced by optogenetic stimulation of astrocytic networks within the brainstem is partially mediated by glutamatergic mechanisms.**
Nephtali Marina
-
- PC16 **Diurnal variation in the mechanical and neural components of the baroreflex**
Chloe Taylor
-
- PC17 **The effect of a non-obesogenic high-fat diet on excitation-contraction coupling in cardiomyocytes**
Ben Littlejohns
-
- PC18 **Altered GABA_A and NMDA receptor expression in the hypothalamic paraventricular nucleus of hypertensive and pregnant rats**
Simon Cork
-

Continued on the next page

Find out about the next [Cardiac & Respiratory Physiology](#) meeting on page 132.

For details of the Lecture Theatres, see page 8

-
- PC19 **Chronic electrical stimulation of the ventral lateral periaqueductal grey (vlPAG) evokes a persistent and substantial hypotensive response in spontaneously hypertensive (SH) but not normotensive rats**
Fiona McBryde
-
- PC20 **Neuropeptide Y in the rat central catecholaminergic system**
John Kourtesis
-
- PC21 **The acute inotropic and electrophysiological response during cardiac contractility modulation is mediated by local post-synaptic transmission in the isolated innervated rabbit heart**
James Winter
-
- PC22 **Peripheral chemoreceptor inputs contribute to the development of high blood pressure in spontaneously hypertensive rats**
Julian Paton
-
- PC23 **Post-cardiopulmonary bypass surgery acute kidney injury is associated with gene expression changes in a porcine model**
Mohamed Ghorbel
-
- PC24 **Altered cardiac fibroblast proliferation during cardiac hypertrophy is modulated by calcium/calmodulin-dependent protein kinase II?**
Tamara Martin
-
- PC25 **IP3R expression is increased in a minimally invasive surgical mouse model of cardiac hypertrophy**
Tamara Martin
-
- PC26 **Atrial IP3 receptor expression is increased in patients with left ventricular systolic dysfunction**
Tracy Chong
-
- PC27 **Investigation of cardiovascular parameters as indicators of sympathetic activity in lean and hypermetabolic *Gnasxl* knock-out mice**
Nicolas Nunn
-
- PC28 **Expression of the amiloride binding protein 1 (*Abp1*) is stimulated in response to hypoxia and myocardial infarction**
Karin Kirschner
-

-
- PC29 **Carbon monoxide inhibition of the cardiac sodium channel, Na_v1.5**
Jacobco Elies
-
- PC30 **Macrophage apoptosis and loss of motility is induced by asymmetric dimethylarginine**
Blerina Ahmetaj
-
- PC31 **Electrophysiological properties and calcium handling in the atrium in mice with cardiac specific deletion of plasma membrane calcium ATPase isoforms 1 (PMCA1)**
Yanwen Wang
-
- PC32 **The role of catecholamines in the augmented chemosensitivity of heart failure**
Oliver Ziff
-
- PC33 **Expression of the integral membrane protein 2A (*Itm2a*) in the heart is stimulated by hypoxia and the Wilms' tumor transcription factor, WT1**
Karin Kirschner
-
- PC34 **Slow desensitization of muscarinic K⁺ channel is associated with chronic vulnerability to atrial fibrillation**
Zhigang Shui
-
- PC35 **The effect of chronic catecholamine treatment upon vascular reactivity**
Drew Duglan
-
- PC36 **Vesicular release of ATP in brainstem astrocytes evoked by pH changes**
Vitaliy Kasymov
-
- PC37 **Inotropic changes from Cardiac Contractility Modulation (CCM) are associated with catecholamine release and activation of the slow delayed rectifying potassium current**
James Winter
-
- PC38 **Sildenafil alleviates bronchopulmonary dysplasia by up-regulating hypoxia inducible factor-1 α**
Hyoung-Sook Park
-

Find out about the next [Cardiac & Respiratory Physiology](#) meeting on page 132.

For details of the Lecture Theatres, see page 8

Poster Communications

Cellular & Integrative Neuroscience

Tuesday 12 July 2011

Marquee behind University Club

The names below are the presenting authors, for a full list of authors see the abstract

-
- PC39 **Characterisation of vagal afferent-evoked 5-HT release detected by fast-cyclic voltammetry in the nucleus tractus solitarius (NTS) of the anaesthetised male rat**
Patrick Hosford
-
- PC40 **Evidence that activation of central 5-HT₇ receptors cause sympathoexcitation in anesthetized rats**
Chris Moore
-
- PC41 **Modelling the role of the A-type potassium current in regulating excitability in sympathetic preganglionic neurones**
Linford Briant
-
- PC42 **A micturition switch in the periaqueductal grey matter in rats.**
Ella Stone
-
- PC43 **Real time monitoring of neurotransmitter uptake and storage in PC-12 cells: Implication for co-storage and co-transmission**
Peter Sidaway
-
- PC44 **Manipulation of the cardiovascular response to postural challenge by pedunculopontine nucleus stimulation in humans**
Jonathan Hyam
-
- PC45 **Contribution of central and peripheral mechanisms for non-micturition contractions in rat bladder function**
Prajni Sadananda
-
- PC46 **Functional and molecular defects of baroreceptor neurons in genetic hypertension**
Francois Abboud
-

Find out about the new Editor-in-Chief's plans for neuroscience in *The Journal of Physiology* on page 123

-
- PC47 **BDNF-induced Ca²⁺ oscillations in rat organotypic spinal cord slices and their possible relevance to neuropathic pain**
Peter Smith
-
- PC48 **A non-enzymatic transport metabolon enhances lactate flux in astrocytes**
Holger Becker
-
- PC49 **Changes of sleep structure after different types of cold acclimation in rats**
Olena Ventskovska
-
- PC50 **Two forms of action potential latency-walking in rat and mouse small diameter sensory neurones *in vitro*, discriminated by tetrodotoxin**
Rachel Wright
-
- PC51 **Neuronal over-expression of Neuregulin-1 slows carbachol-induced gamma oscillations and alters GABAergic inhibition in hippocampus**
Wiebke Nissen
-
- PC52 **Behavioural and neurophysiological thresholds for two pitch discrimination tasks**
Amelia Davies
-
- PC53 **Altered synaptic transmission in the CA3 region in a mouse model of mental retardation**
Kalbinder Gill
-
- PC54 **Treatment of glioma using liposomes generated from alcohol-based proliposomes**
Seema Jaiswal
-
- PC55 **Role of ryanodine receptors, IP3 receptors, and phospholipase C in facilitation and tetanic depression at the frog neuromuscular junction.**
Ligia Naves
-
- PC56 **Multi Electrode Array recordings from the striatum and adjacent anatomical areas.**
Richard Smith
-

Continued on the next page

Find out about the new Editor-in-Chief's plans for neuroscience in *The Journal of Physiology* on page 123

For details of the Lecture Theatres, see page 8

PC57 **Brain microcirculation is regulated by neuronal-derived nitric oxide: real time and *in vivo* demonstration**
João Laranjinha

PC58 **Extensive cortical cholinergic innervation is required for normal auditory processing and perceptual learning in adult ferrets**
Victoria Bajo Lorenzana



Find out about the new Editor-in-Chief's plans for neuroscience in
The Journal of Physiology on page 123

Poster Communications

Epithelia & Membrane Transport

Tuesday 12 July 2011

Marquee behind University Club

The names below are the presenting authors, for a full list of authors see the abstract

PC59 **Nitric oxide production and platelet function in obese adults**
Antonio Cláudio Mendes-Ribeiro

PC60 **Cannabinoid receptors in submandibular acinar cells:
Functional coupling between fluid and electrolytes secretion
and Ca²⁺ signalling**
Nataliya Fedirko

PC61 **Stability of Jurkat cell size in ATP-depleting and furosemide-
containing media**
Anthony Collins

PC62 **Melatonin induces calcium release from agonist-sensitive
cytosolic stores and reduces pancreatic tumour cell viability
by altering mitochondrial physiology**
Antonio Gonzalez

PC63 **The Prostaglandin E2 type 4 receptor mediates the response
to oxidant stress in human airway epithelial cells**
Elizabeth Cowley

PC64 **High-affinity lactate uptake is facilitated by an extracellular,
but not by an intracellular carbonic anhydrase**
Michael Klier

PC65 **Haplotype deletion of the gene encoding 11-beta-
hydroxysteroid dehydrogenase type 2 (11- β -HSD2^{-/-}) alters the
activity of renal serum / glucocorticoid-inducible kinase 1
(SGK1) in mice fed a high Na⁺ diet**
Stuart Wilson

Continued on the next page

Find out about the next [Epithelia & Membrane Transport](#) meeting
on page 128

For details of the Lecture Theatres, see page 8

EM

-
- PC66 **Cannabinoids regulate muscarinic receptor-mediated salivation in submandibular salivary gland**
Olga Netsyk
-
- PC67 **Novel mutations of CLCNKB gene in patients with Bartter syndrome: A functional analysis in *Xenopus laevis* oocytes**
Mathilde Keck
-
- PC68 **Estrogen induces internalization of KCNQ1 K⁺ channels in the colonic tumour cell line HT29cl19A**
Raphael Rapetti-Mauss
-
- PC69 **Calcium- and voltage-dependence of the anoctamin2/TMEM16b-chloride channel: a candidate calcium-activated chloride channel in olfactory transduction**
Valentina Cenedese
-
- PC70 **Regulation of ion transport in cultured human bronchial epithelial cells by *Cordyceps militaris* extract**
Chun Kit Fung
-
- PC71 **Role of cysteine residues in the normal operation and assembly of K⁺-Cl⁻ cotransporter isoform 2 (KCC2)**
Gabriel Carpentier
-
- PC72 **TASK5: a study to determine its physiological role**
Laura Roncoroni
-

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Human & Exercise Physiology

Tuesday 12 July 2011

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PC73 **Cerebrovascular responses during recovery from hypercapnia in young and old healthy humans**
Jill Barnes

PC74 **Physical training reduces time-domain ventilatory variability during exercise in healthy individuals**
Antonio Nobrega

PC75 **Oxygen uptake kinetics during moderate intensity cycling in obese individuals**
Catherine Kiely

PC76 **Brain blood flow and cardiovascular responses to hot flashes in symptomatic postmenopausal women.**
Rebekah Lucas

PC77 **MC₁ and MC₃ activation inhibits caspase-3 production and activity, promotes cell-viability, IL-10 and HO-1 release from human C20/A4 chondrocytes**
Magdalena Kaneva

PC78 **Distinct effect of EPA and DHA on anabolic signaling pathways in C2C12 skeletal muscle cells.**
Torkamol Kamolrat

PC79 **Yes-associated protein (Yap) expression and Ser127 phosphorylation during satellite cell activation, differentiation and self-renewal**
Robert Judson

Continued on the next page

Find out about the next [Human & Exercise Physiology](#) meeting on page 129

For details of the Lecture Theatres, see page 8

-
- PC80 **Energy expenditure during exposure to +Gz hypergravity wearing two different types of anti-G trousers**
Dan Siddons
-
- PC81 **Effect of *Momordica charantia* on blood cholesterol level in albino rats**
Sheriff Ojulari
-
- PC82 **Dynamic cerebral autoregulation remains preserved in professional boxers**
Danielle Hodson
-
- PC83 **Effects of immobilization and rehabilitation on human lower leg muscles measured using magnetic resonance imaging**
Maria Psatha
-
- PC84 **Effects of an inverted body position on arm maximal voluntary contract force and cardiovascular parameters**
J. Patrick Neary
-
- PC85 **The decrease of FiO2 was not a limiting factor of endurance at VO2max**
Helene Petot
-
- PC86 **Assessment of the efficiency of two high-altitude walking strategies in humans**
Stephen Myers
-
- PC87 **Performance and stroke volume during marathon in recreational middle-aged runners**
Veronique Billat
-
- PC88 **Do physiological time delays provide the reason for intermittent, visual-manual control?**
Cornelis van de Kamp
-
- PC89 **Measuring the refractory period in a visual-manual pursuit task**
Cornelis van de Kamp
-
- PC90 **Optimal control of task-specific muscle synergies I: Feed-forward strategies**
Andrew Jackson
-
- PC91 **Optimal control of task-specific muscle synergies II: Feedback strategies**
Kianoush Nazarpour
-

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PC92 **Modulation of the dynamic interaction between STIM1, Orai1 and TRPC1 by the cytoskeleton in HEK-293 cells**
Natalia Dionisio

PC93 **Phosphatidylinositol-4,5-bisphosphate is decreased in insulin resistance provoked by multiple conditions in L6 myotubes and 3T3-L1 adipocytes**
Alexander Ryan

PC94 **The effect of subnormothermic perfusion on oxidative stress in isolated rat liver**
Jesus Palomeque

PC95 **Diabetic modulation of adipose tissues CRP in piglets**
Ewa Oclon

PC96 **Skeletal muscle carnitine depletion attenuates fat oxidation and increases carbohydrate oxidation in the rat**
Craig Porter

PC97 **A comparative study of erythrocyte membrane proteins in type 2 diabetic patients and healthy controls**
Shanthi Kappala

PC98 **Endurance exercise decreases the lipid droplet association with perilipin 2 in human skeletal muscle**
Sam Shepherd

Continued on the next page

PC99 **Bruton's tyrosine kinase participates in the regulation of STIM 1 by tyrosine phosphorylation during SOCE in human platelets**
Esther Lopez

PC100 **An inducible mouse model of neonatal diabetes**
Kenju Shimomura

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Rasna Sabharwal

PC102 **Determinants of human cerebral pressure-flow velocity relationships: new insights from vascular modeling and Ca²⁺ blockade**
Yu-Chieh Tzeng

PC103 **Time course of vascular reactivity in hypertensive rats induced by ethanol treatment**
Andreia Lopes da Silva

PC104 **Curcumin decreased vascular responses to sympathetic nerve stimulation in the mesenteric vascular bed of normotensive and hypertensive rats**
Poungrat Pakdeechote

PC105 **An AC8/Orai1 signalling complex underlies dynamic Ca²⁺-regulated cAMP signalling**
Debbie Willoughby

PC106 **Characterising nucleotide release from the EA.hy926 human endothelial cell line during metabolic stress**
Chris Thompson

PC107 **Sulforaphane modulates redox signalling in human aortic adventitial fibroblasts**
Tabasum Mughal

Continued on the next page

Find out about the next **Vascular & Smooth Muscle Physiology** meeting on page 128

For details of the Lecture Theatres, see page 8

PC108 **Immunophilin proteins participate in platelet aggregation by regulating granule secretion and calcium homeostasis**
Pedro Redondo

PC109 **Modulation of HEK293 proliferation by Kv1.3 channels expression**
Laura Jiménez-Pérez

PC110 **Reduced P2X receptor-mediated responses in renal vascular myocytes of spontaneously hypertensive rats**
Oleksandr Povstyan

PC111 **Induction of vascular antioxidant defences in response to dietary lipids and atherogenesis in hypercholesterolemic rabbits**
Perinur Bozaykut

PC112 **β -NAD mediates purinergic post-junctional enteric inhibitory responses via P2Y1 receptors in the colon**
Sean Ward

PC113 **Calcium mobilization by NAADP from acidic stores in the megakaryoblastic cell line MEG01**
Juan Rosado

PC114 **Homer1 has a role in Store Operated Calcium Entry in human platelets**
Isaac Jardin

PC115 **Regulatory mechanism of STIM1 translocation into plasma membrane in HEK293 cells**
Bo Zeng

PC116 **Species variations in TRPC4 properties**
Maxim Kustov

PC117 **Role of Kv1.3 channels in the proliferation of human vascular smooth muscle cells**
Christian Ruiz-McDavitt

PC118 **Investigation of the role of icilin, a TRPM8 channel agonist, in mediation of detrusor contraction in pig urinary bladder**
Bahareh Vahabi

-
- PC119 **Differential expression and function of the voltage operated calcium channels and their ancillary subunits in a mice model of essential hypertension**
Sendoa Tajada
-
- PC120 **Structure-function studies of the pore domain of the TMEM16 family of Ca²⁺-activated Cl⁻ channels.**
Aiste Tamuleviciute
-
- PC121 **The lipid mediator sphingosylphosphorylcholine regulates inflammatory functions in rat vascular smooth muscle cells**
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