

# Experimental Physiology

## Which Editor?

Surname First name City Country	Physiology Subject Area (Keywords)	Research Interests	Techniques
<a href="#">Aguilera Greti</a> Bethesda USA	<b>Neuroendocrinology/ Endocrinology</b>  Renin-angiotensin system Hypothalamic-pituitary-adrenal axis Steroidogenesis Stress	Neuroendocrine adaptation to stress, cellular and molecular regulation of neuropeptides and their receptors; steroidogenesis	Stress models, Gene expression, receptor binding, signaling transduction, routine molecular and biochemical assays.
<a href="#">Atherton Philip J</a> Nottingham UK	<b>Human, environmental &amp; exercise Muscle Vascular</b>  Skeletal muscle Metabolism Exercise nutrition Ageing diseases Signal transduction Protein, RNA	Integrative approaches to understanding the metabolic and molecular control of skeletal muscle mass and function. Autocrine, paracrine and endocrinological activities and influences on skeletal muscle. Control of energy metabolism, control of muscle protein turnover, control of gene expression; in health, ageing and diseases.	Expertise in conducting and design of cell biology, in vivo pre-clinical experiments (and ex vivo preparations) and human clinical physiology studies. Signal transduction, various biochemical assays (e.g. Enzymatic), IHC, WB, qRT-PCR, OMICS approaches, etc.
<a href="#">Barrett Carolyn</a> Otago New Zealand	<b>Autonomic Neuroscience Cardiovascular Control</b>	Autonomic control of the cardiovascular system, chronic recording of renal sympathetic nerve activity, and using this technique to examine the role renal sympathetic nerves play in regulating cardiovascular function in health and diseases such as hypertension and heart failure.	
<a href="#">Bruton Joseph</a> Stockholm Sweden	<b>Muscle Human, environmental &amp; exercise</b>  Calcium Inflammation	Mechanisms underlying warm-up and fatigue in muscle, and acute and chronic adaptations of muscle to disease. Calcium handling by sarcoplasmic reticulum and mitochondria in skeletal and cardiac muscle.	Force and calcium measurements in single muscle fibres from normal, transgenic and diseased rodents. Confocal imaging of calcium, ROS in skeletal and cardiac muscle cells.

# Experimental Physiology

Surname First name City Country	Physiology Subject Area (Keywords)	Research Interests	Techniques
<a href="#">Brunton Paula</a>  Edinburgh UK	<b>Neuroendocrinology</b>	Neuroendocrine adaptations in the HPA axis and oxytocin system in pregnancy. Early life programming of the brain and behaviour by stress/adversity.	In vivo experiments in rodents, including behavioural, blood sampling and microdialysis experiments. Surgical (recovery) techniques include venous/arterial cannulation, i.c.v. cannulation, implantation of microdialysis probes, brain microinjections, implantation of mini-osmotic pumps, adrenalectomy, ovariectomy. Laboratory techniques include: radio/enzyme-immunoassay, in situ hybridisation, histology, immunocytochemistry, quantitative microscopic image analysis and photomicroscopy.
<a href="#">Denton Kate</a>  Victoria Australia	<b>Renal</b>  Kidney Cardiovascular Hypertension Sympathetic activity Neurovascular function Arterial pressure Pregnancy Fetal programming Renin-angiotensin system Endothelial function	Sex-differences in the regulation of blood pressure. Fetal programming of arterial pressure and renal function, and neural control of renal function. Regulation of arterial pressure and renal function during pregnancy. Cardiac and renal function and end-organ damage, and placental morphological correlates of function.	Telemetry recording of blood pressure. Renal clearance measurements, renal micropuncture, renal stereology/morphology, scanning and transmission EM myograph. Measurement of organ blood flow. Experimental models; sheep, rabbits, rats, mice.
<a href="#">Fadel Paul</a> <b>Deputy Editor in Chief</b> USA  Arlington, TX USA	<b>Human, environmental &amp; exercise Cardiovascular control</b>  Autonomic nervous system Arterial baroreceptors Sympathetic nervous system	Sympathetic nervous system in health and disease. Neural control of the circulation during exercise.	
<a href="#">Frey Mark</a>  Los Angeles, CA USA	<b>GI &amp; Epithelial</b>  Intestinal epithelial cells Receptor tyrosine kinases Wound healing Signal transduction Inflammation	The intestinal response to injury and inflammation; signal transduction mechanisms controlling epithelial barrier development, maintenance, and wound healing; the role of growth factor signalling in innate immune responses in the gut.	Cell and organoid culture models; wound closure and migration assays; experimental colitis; immunostaining and -blotting, qPCR, flow cytometric approaches.

# Experimental Physiology

Surname First name City Country	Physiology Subject Area (Keywords)	Research Interests	Techniques
<a href="#">Jones James</a> Dublin Ireland	<b>Autonomic neuroscience Respiratory</b>  Arterial Chemoreceptors Hypoxia Respiratory control Oesophagus Faecal continence Anal canal	Central nervous system (spinal cord and medulla), central control of cardiovascular respiratory and gastrointestinal function, peripheral chemoreceptor reflexes, cardiac vagal activity, vasomotor sympathetic activity, autonomic gastrointestinal function.	Suction electrode recording of peripheral nerves. Brainstem recording of single neurons, microiontophoresis. Multi-electrode array of cortical activity, fMRI.
<a href="#">Kaufman Marc</a> Hershey, PA USA	<b>Cardiovascular control Human, environmental &amp; exercise</b>  Sensory neurone Spinal reflex	Exercise pressor reflex which arises from contracting skeletal muscle and which functions to increase sympathetic discharge to multiple vascular beds. Mechanical and metabolic stimuli arising in both health and disease that activate the thin fibre muscle afferents comprising the sensory arm of the reflex.	
<a href="#">Lei Ming</a> Oxford UK	<b>Heart/cardiac muscle</b>  Ion Channel Arrhythmia	Cardiac ion channel function and its regulation under both physiological and pathophysiological conditions in a direction that will lead to a better understanding of hypertrophic and arrhythmic disorders, and the development of effective new therapeutic modalities.	
<a href="#">Lowe Dawn A</a> Minnesota, MN USA	<b>Muscle Human, environmental &amp; exercise</b>  Aging Muscular dystrophy Exercise science Estrogen biology	Cellular and molecular mechanisms underlying skeletal muscle deterioration that occur with age, injury, and disease. Current studies are also aimed at preventing or reversing this muscle deterioration through exercise, pharmacological interventions.	Whole muscle physiology, single fiber physiology, rodent in vivo muscle physiology, muscle biochemistry and molecular biology, rodent exercise interventions, estrogen receptor manipulation
<a href="#">MacLeod Kenneth</a> London UK	<b>Heart/cardiac muscle</b>  Contraction EC Coupling Electrophysiology Ion Channels Cardiac Excitation Heart	Processes that control cardiac cell contraction in health and disease, cardiac excitation-contraction coupling, SR Ca release, cardiac electrophysiology, cardiac hypertrophy, heart failure, arrhythmias, effects of hypoxia and ischaemia on the heart.	Microscopy (classical fluorescence and surface-scanning confocal), in vitro contractility measurements, real-time spatial calcium imaging, ion-sensitive electrodes, fluorescence measurement of intracellular pH and Na, patch and voltage clamping, microelectrode arrays, animal models of cardiac disease, in vivo physiological monitoring with implantables, echocardiography.

# Experimental Physiology

Surname First name City Country	Physiology Subject Area (Keywords)	Research Interests	Techniques
<a href="#">Ogoh</a> <a href="#">Shigehiko</a>  Tokyo Japan	<b>Human, environmental &amp; exercise</b> <b>Cardiovascular control</b>  Autonomic nervous system Cerebral blood flow Arterial baroreflex	Regulation of cerebral blood flow and cognitive function in humans. Neural control of the circulation with specific reference to the role of arterial and cardiopulmonary baroreflexes. Cardiovascular and cerebrovascular adaptations to exercise training, orthostatic stress, microgravity, and hypoxia.	
<a href="#">O'Halloran</a> <a href="#">Ken</a>  Cork Ireland	<b>Respiratory</b>  Control of breathing Muscles of breathing Respiratory plasticity Adaptive/maladaptive cardiorespiratory responses to chronic hypoxia	Plasticity in respiratory control in health and disease. Current research interests include cardiorespiratory remodelling in animal models of chronic hypoxia; redox remodelling in respiratory and skeletal muscle; cranial motor control of the pharyngeal airway; sleep apnoea syndrome.	<i>In vivo</i> assessment of cardiorespiratory function, carotid body chemoafferent recordings, single respiratory motor unit recordings, electromyography, electroneurography, plethysmography, muscle physiology and biochemistry, redox proteomics.
<a href="#">Przyklenk</a> <a href="#">Karin</a>  Detroit, MI USA	<b>Heart/cardiac muscle</b> <b>Vascular</b>  Ischemia Myocardium Brain Platelet	The pathophysiology of acute coronary ischemic syndromes, ischemia-reperfusion injury in heart and brain, identification of cellular mechanisms and signalling pathways that increase the tolerance of the heart and brain to ischemia, and novel strategies to attenuate platelet-mediated-thrombosis.	<i>In vivo</i> models of ischemia-reperfusion in heart and brain, cell culture models of hypoxia-reoxygenation, <i>in vivo</i> models of thrombosis, <i>in vitro</i> assessment of platelet activation-aggregation, standard cellular/molecular techniques and assays.
<a href="#">Tipton</a> <a href="#">Mike</a> <i>Editor-in-Chief</i>  Portsmouth UK	<b>Human, environmental &amp; exercise</b>	The physiological and psychological responses to adverse environments and the selection, preparation and protection of those who enter such environments.	
<a href="#">Thyfault</a> <a href="#">John</a>  Kansas City, KS USA	<b>Human, environmental &amp; exercise</b>  Metabolism Diabetes, insulin resistance Glucose Lipids Mitochondria Liver Skeletal muscle	Impact of hepatic mitochondrial function for the susceptibility for fatty liver disease. Impact of physical activity and aerobic fitness on regulation of insulin sensitivity. Role of statins to negatively impact mitochondrial health and exercise adaptations	Mitochondrial respiration, fat oxidation <i>ex vivo</i> . Clamps in rodents and humans Muscle biopsies. IVGTT. Continuous glucose monitoring, and exercise trials.

# Experimental Physiology

Surname First name City Country	Physiology Subject Area (Keywords)	Research Interests	Techniques
<a href="#">Trafford Andrew</a> Manchester UK	<b>Heart/cardiac muscle</b> <b>Cardiovascular control</b>	Role that calcium plays in control of contraction in the heart; arrhythmia mechanisms, heart failure, atrial fibrillation, and ageing. Regulation of calcium signalling, contractility, and arrhythmias by the adrenergic nervous system, and modulation of these processes by phosphodiesterase inhibitors, beta blockers and chronic vagal nerve stimulation in health and disease.	Confocal and wide field microscopy. Fluorescent indicators for intracellular ion measurements. Patch clamp (voltage clamp, current clamp). <i>In vivo</i> models of heart disease. Cell biology, protein and gene expression.
<a href="#">Wang Jian</a> Baltimore, MD USA	<b>Respiratory</b>	Ion channels in pulmonary arterial smooth muscle. Transient receptor potential cation channels (TRPCs), store operated calcium entry (SOCE) and their roles in chronic hypoxia-induced pulmonary hypertension (CHPH).	
<a href="#">Ward Jeremy</a> London UK	<b>Respiratory</b> <b>Vascular</b> Regulation of pulmonary blood flow Hypoxia Cell signalling Vascular smooth muscle Airway smooth muscle	Hypoxic pulmonary vasoconstriction and pulmonary hypertension, reactive oxygen species as signalling moieties, airway smooth muscle function in asthma, and the protein kinase cascades leading to myosin phosphorylation	Transgenic animals as models of asthma and for investigating kinase networks. Use of human airway smooth muscle from asthmatics. Imaging and detection of calcium and oxidant signalling. Primary cell culture.
<a href="#">White Michael</a> <i>Deputy Editor in Chief</i> UK Birmingham UK	<b>Human, environmental &amp; exercise</b> <b>Muscle</b> Blood pressure Sympathetic activity Cardiovascular	Human exercise physiology, cardiovascular responses to exercise in health and disease with special reference to the role of muscle afferent inputs in human cardiovascular control.	