

## Dr Andrew Coney

Lecturer in Physiology

Cardiovascular and Respiratory Sciences

### Contact details

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### Qualifications

BSc (Hons) Physiology and Pharmacology, University of Southampton

PhD Cardiovascular Physiology, University of Birmingham

### Teaching

Andrew currently teaches on the MBChB (years 1 and 2), GEC, BMedSc (years 1, 2 and 3), Biomaterials (year 1) and BDS (year 1) courses. His teaching covers the range of teaching types including SGT (tutorials), integrated problems (MBChB only), seminars, laboratory practicals and lectures. He teaches physiology topics in the main, specifically in the areas of cardiovascular, respiratory and renal physiology. Additionally, in most years he supervises final year BMedSc research projects – these are normally in vivo based projects in the area of cardiorespiratory physiology to tie in with his research interests. Andrew is also involved in the University ethical review process for animal experiments and sit on BERSC as well as reviewing fast track amendments.

### Postgraduate supervision

Andrew currently supervises a PhD student who is investigating the effects of ageing on the control of cerebral blood flow. Previous PhD students have investigated areas such as the effects of chronic hypoxia in utero on muscle sympathetic nerve activity in the adult offspring. He is also involved in providing advice and guidance on the use of IT in the taught courses to help staff incorporate this into their teaching.

Additionally, Andrew is one of the Programme Leads on the MRes Biomedical Research: Integrative & Translational course. This course has both taught and research components.

### Research

Cardiovascular Research, Respiratory Health

#### Research Activity

Andrew has had a longstanding research interest in how the cardiovascular system responds and adapts to changes in oxygen levels. His research mainly takes an integrative systems physiology approach. This interest has opened up several avenues of research. The main emphasis in his current research has centred on the Developmental Origins of Health and Disease (DOHaD) and investigations into how cardiovascular and respiratory responses in the adult are programmed by low oxygen levels before birth. He also has a background into functional assessment of sympathetic vasoconstriction in skeletal muscle and how it is modulated by hypoxia – a balance to maintain tissue oxygen delivery and peripheral resistance. Another strand of research has been collaboration with clinicians from the Women's hospital in developing an animal model of necrotising enterocolitis (NEC). NEC is a major cause of death in premature babies and our model is giving insights into the disease mechanism.

### Publications

Coney AM & Marshall JM (2009). 'Effects of prenatal hypoxia on muscle vasodilatation evoked by acute systemic hypoxia in the rat: changed roles of adenosine and A1 receptors'. Manuscript in preparation.

Hauton D, Coney AM & Egginton S (2009). 'Both substrate availability and utilisation contribute to the defence of core temperature in response to acute cold'. *Comp. Biochem. & Physiol. A*. In Press

Coney AM & Marshall JM (2007). 'Contribution of  $\alpha$ 2-adrenoceptors and Y1 neuropeptide Y receptors to the blunting of sympathetic vasoconstriction induced by systemic hypoxia in the rat'. *J. Physiol.* 582.3, 1349-1359

Coney AM, Bishay M & Marshall JM (2004). 'Influence of endogenous nitric oxide on sympathetic vasoconstriction in normoxia, acute and chronic systemic hypoxia in the rat'. *J. Physiol.* 555.3, 793-804

Ewer A, Al-Salti W, Coney A, Marshall J, Ramani P & Booth I (2004). 'The role of platelet-activating factor in a neonatal piglet model of necrotising enterocolitis'. *Gut* 53.2, 207-213

