

Monday 19 March

08.00 Registration

08.20 Welcome and introduction
Mike Spyer (*The Physiological Society, UK*)

Cardiac, respiratory and vascular aspects of performance

Chair: Michael White (*University of Birmingham, UK*)

Published by Experimental Physiology

08.30 Vascular adaptation in athletes: Is there an "Athlete's Artery"?
SA1 Daniel J Green (*Liverpool John Moores University, UK*)

09.00 The athlete's heart
SA2 Benjamin Levine (*University of Texas Southwestern Med. Center, SA*)

09.30 Pulmonary system limitations to endurance exercise performance in humans
SA3 Markus Amann (*University of Utah, USA*)

10.00 The cardiovascular system and the ageing athlete
SA4 Allison DeVan (*University of Colorado, USA*)

10.30 Cardiovascular limitations in the Paralympic athlete with a spinal cord injury
SA5 Daniel Theisen (*CRP Santé, Luxembourg*)

11.00 Posters & refreshments

Oral Communications

Chair: Steve Harridge (*King's College London, UK*)

12.00 Ablation of p38 γ -MAPK reduces cardiac remodelling following pressure overload
C1 Katharina Tilgner (*King's College London, UK*)

12.15 Former male elite athletes sustain fewer fragility fractures than expected
C2 Magnus Karlsson (*Lund University, Sweden*)

12.30 Tyrosine supplementation does not influence the capacity to perform prolonged exercise in a warm environment
C3 Phillip Watson (*Loughborough University, UK*)

Oral Communications continued

Chair: Steve Harridge (*King's College London, UK*)

- 12.45 Repeated-sprint ability is further enhanced by intensive training in
C4 hypoxia than in normoxia
Raphael Faiss (*University of Lausanne, Switzerland*)

13.00 Posters & lunch

Drugs in sport

Chair: Ian McGrath (*University of Glasgow, UK*)

Published by the British Journal of Pharmacology

- 14.00 The evolving science of detection of 'blood doping'
SA6 Carsten Lundby (*University of Zurich, Switzerland*)
- 14.30 Drugs that are abused in sport
SA7 David Cowan (*King's College London, UK*)
- 15.00 Testosterone in sport
SA8 Fawzi Kadi (*Örebro University, Sweden*)
- 15.30 The Athlete Biological Passport
SA9 Martial Saugy (*Swiss Laboratory for Doping Analyses, Epalinges, Switzerland*)

Bayliss-Starling Prize Lecture

Chair: David Paterson (*University of Oxford, UK*)

- 16.00 Contribution of respiratory and locomotor muscle afferents to the
PL1 cardio-ventilatory responses to rhythmic exercise in humans
Jerome A Dempsey (*University of Wisconsin-Madison, USA*)

17.00 Posters & refreshments

Plenary Lecture

Chair: Ian McGrath (*University of Glasgow, UK*)

- 18.00 The biological basis for exercise and health
PL2 Frank Booth (*University of Missouri, Columbia, USA*)

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- 19.00 Informal networking event at the Tattershall Castle
(organised by BPS Young Pharmacologists' Committee)

Tuesday 20 March

08.00 Registration

Neuromuscular function, muscle phenotype and mass regulation

Chair: Steve Harridge (*King's College London, UK*)

Published by The Journal of Physiology

Sponsored by the BBSRC

08.30 Central fatigue

SA10 Simon Gandevia (*Neuroscience Research Australia and University of New South Wales, Sydney, Australia*)

09.00 Satellite cells in skeletal muscle growth, homeostasis and repair

SA11 Peter Zammit (*King's College London, UK*)

09.30 Fibre type transition and training

SA12 Stefano Schiaffino (*Università degli Studi di Padova, Italy*)

10.00 Neural and muscular limitations in the Paralympic athlete

SA13 Jan Lexell (*Lund University Hospital, Sweden*)

10.30 Ageing human muscles and tendons: The master athlete

SA14 Marco Narici (*University of Nottingham, UK*)

11.00 Posters & refreshments

12.00 The Science of Sport: How to Win Gold
Schools competition, presentations and judging



13.00 Posters & lunch

13.45 The Science of Sport competition winners announced

Exercise metabolism

Chair: Paul Greenhaff (*University of Nottingham, UK*)

Published by The Journal of Physiology

Sponsored by the Gatorade Sports Science Institute

14.00 Muscle Protein Synthesis (MPS) in response to nutrition & exercise

SA15 Phil Atherton (*University of Nottingham, UK*)

14.30 Regulation and limitations to fatty acid oxidation during exercise

SA16 Bente Kiens (*University of Copenhagen, Denmark*)

Exercise metabolism continued

Chair: Paul Greenhaff (*University of Nottingham, UK*)

Published by The Journal of Physiology

Sponsored by the Gatorade Sports Science Institute

15.00 Carbohydrate metabolism during exercise and training

SA17 Erik Richter (*University of Copenhagen, Denmark*)

15.30 High intensity intermittent training

SA18 Marty Gibala (*McMaster University, Canada*)

Oral Communications

Chair: Carolyn Greig (*University of Edinburgh, UK*)

16.00 Does whole body vibration influence motor unit recruitment and

C5 threshold?

Ross Pollock (*King's College London, UK*)

16.15 Effect of differential muscle-tendon unit length during dynamic

C6 resistance training on muscle function, architecture, morphology and detraining

Gerard McMahon (*Manchester Metropolitan University, UK*)

16.30 The ventilatory response to muscle metaboreflex stimulation during

C7 concurrent hypercapnia in humans: roles of central and peripheral chemoreception

Richard Bruce (*University of Birmingham, UK*)

16.45 Focal adhesion kinase is required for contraction and IGF-1 induced

C8 muscle cell growth

Hannah Crossland (*University of Nottingham, UK*)

17.00 Posters & refreshments

Plenary Lecture

Chair: Paul Greenhaff (*University of Nottingham, UK*)

Sponsored by the BBSRC

18.00 How science, medicine and engineering has changed how athletes

PL3 train and perform

Scott Drawer & Christian Cook (*UK Sport, UK*)

19.00 Conference Dinner

Wednesday 21 March

Gatorade Sports Science Institute Day



08.00 Registration

Thermoregulation

Chair: Ron Maughan (*Loughborough University, UK*)

Published by Experimental Physiology

Sponsored by the Gatorade Sports Science Institute

08.30 Human thermoregulation and the cardiovascular system

SA19 Jose Gonzalez-Alonso (*Brunel University, UK*)

09.00 High skin temperature and hypohydration impairs aerobic performance

SA20 Mike Sawka (*Army Research Institute of Environmental Medicine, USA*)

09.30 Brain temperature and exercise performance

SA21 Lars Nybo (*University of Copenhagen, Denmark*)

Genomics and exercise

Chair: Carolyn Greig (*University of Edinburgh, UK*)

Published by Experimental Physiology

Sponsored by the Gatorade Sports Science Institute

10.00 Genomic predictors of trainability

SA22 Claude Bouchard (*Pennington Biomedical Research Center, USA*)

10.30 Genome-wide responses to training

Jamie A Timmons (*University of London, UK*)

11.00 Posters (*Sponsored by the Gatorade Sports Science Institute*) & refreshments

Oral Communications

Chair: Ron Maughan (*Loughborough University, UK*)

- 12.00 Eccentric exercise is associated with marked impairment of maximal
C9 rates of mitochondrial ATP production in human skeletal muscle
Dumitru Constantin-Teodosiu (*University of Nottingham, UK*)
- 12.15 The ergogenic impact of sustained high-dose short acting β 2-
C10 agonist use during a six week training programme in healthy
individuals
John Molphy (*Liverpool John Moores University, UK*)
- 12.30 Cortical reorganization in elite athletes: Lessons in plasticity for brain
C11 injury treatment
Damon Hoad (*University College London, UK*)
- 12.45 Extracellular pH and buffer capacity does not influence time to
C12 exhaustion or reductions of intramuscular pH and maximal voluntary
contraction force during exhaustive intermittent static exercise
Nikolai Nordsborg (*University of Copenhagen, Denmark*)

13.00 Posters (*Sponsored by the Gatorade Sports Science Institute*) &
lunch

Sports and exercise medicine

Chair: Michael Kjaer (*University of Copenhagen, Denmark*)

Published by the Scandinavian Journal of Sports and Exercise Medicine

Sponsored by the Gatorade Sports Science Institute

- 14.00 Exercise therapy – the public health message
SA23 Steven Blair (*University of South Carolina, USA*)
- 14.30 Training and bone – from health to injury
SA24 Magnus Karlsson (*Lund University, Sweden*)
- 15.00 Tendon overuse and development of injury
SA25 Michael Kjær (*University of Copenhagen, Denmark*)
- 15.30 Rehabilitation of muscle after injury - role of anti-inflammatory drugs
SA26 Ulla Ramer Mikkelsen (*University of Copenhagen, Denmark*)

Oral Communications

Chair: Michael White (*University of Birmingham, UK*)

- 16.00 C13 Canonical wnt- β -catenin signalling is active in primary human myoblasts
Chibeza Agley (*King's College London, UK*)
- 16.15 C14 Aging does not affect the profile of muscle deoxygenation during ramp incremental exercise in chronically endurance trained men
Matthew Spencer (*The University of Western Ontario, Canada*)
- 16.30 C15 The impairment of glucose disposal following eccentric exercise is associated with increased muscle PDK4 protein expression and inhibition of PDC activation in humans
Kanagaraj Marimuthu (*University of Nottingham, UK*)
- 16.45 C16 Is there a time-delay in muscle oxygen uptake at the onset of contractions?
Rob Wüst (*University of Leeds, UK*)

17.00 Posters (*Sponsored by the Gatorade Sports Science Institute*) & refreshments

Plenary Lecture

Chair: Jerome A Dempsey (*University of Wisconsin-Madison, USA*)

Sponsored by the Gatorade Sports Science Institute

- 18.00 PL4 A life-time contribution to our understanding of the elite athlete
Bengt Saltin (*University of Copenhagen, Denmark*)