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The Programme and Abstracts booklet is published in association with Journal of Sports Sciences, published by Routledge, and will be available as a supplement issue on the journal website at: www.tandfonline.com/rjsp
On behalf of the British Association of Sport and Exercise Sciences, I am pleased to welcome you to BASES Conference 2019. This year’s programme promises to be highly stimulating and informative. The keynote speakers, parallel symposia, posters and free communications look set to provide a variety of compelling and inspirational sessions that will undoubtedly live up to the high standard of conference that we are accustomed to. We are delighted to welcome Cambridge Nutritional Sciences, Wattbike, The Physiological Society and Routledge as our official gold supporters.

This year’s conference is packed with content and insight, covering an array of topics and presentation formats. The BASES Scientific Programme Committee, chaired by Professor John Saxton FBASES, has secured over 35 expert speakers to deliver keynote lectures and parallel symposia sessions, bringing together a wealth of expertise, experience and passion for sport and exercise science in both research and applied settings. I would like to extend my thanks on behalf of BASES to the Scientific Programme Committee for preparing such an excellent programme.

We extend a special welcome to our invited keynote speakers: Professor Carl Foster from the University of Wisconsin-La Crosse, USA, Professor Mike Weed from Canterbury Christ Church University and Sarah Ruane from Sport England. With combined experience of over 50 years in applied sports science and public health contexts respectively, both opening and closing sessions will undoubtedly be packed with thought-provoking insight, extensive knowledge and topical debate. We also welcome two distinguished overseas speakers as part of this year’s programme of parallel symposia: Professor Catherine Sabiston from the University of Toronto, Canada and Professor Fabrizio Benedetti from the University of Turin, Italy.

I would like to extend a sincere thank you to all of our exhibitors. Walkers Hall will house all our supporters and exhibitors, in addition to refreshments and posters, making this a vibrant networking hub to spend your time outside of the scheduled conference sessions. Please take time to visit the exhibition stands and speak to our conference sponsors, who will be showcasing a range of innovative and industry-leading products, services and publications.

Seven prestigious awards will be contested at this year’s conference, which seek to reward outstanding contributions to sport and exercise sciences by BASES members. We would like to thank our award sponsors: Cranlea, Human Kinetics, Routledge/Taylor and Francis and Sportesse.

Opportunities for socialising and networking play a key part in this event. To facilitate this, we have scheduled plenty of breaks and extended lunch periods, so please utilise these to talk to your fellow delegates and renew old acquaintances. Following the BASES Annual General Meeting on day one, delegates will have a chance to let their hair down at our annual gala drinks reception and conference dinner, which takes place in the Keith Weller Lounge.

And finally, thank you for taking time out of your busy schedule to attend this conference and for being part of BASES signature annual event. I hope you take the time to share your extensive knowledge with other delegates and that your time at the conference is worthwhile and enjoyable.
Programme overview
from Prof John Saxton FBAGES
Chair of the Scientific Programme Committee

On behalf of the Scientific Programme Committee, it is my pleasure to welcome you to BASES Conference 2019. After last year’s jaunt to the beautiful North Yorkshire town of Harrogate, this year our annual flagship event returns to the Midlands. The King Power Stadium in Leicester is the home of the 2015-16 Premier League Champions, Leicester City Football Club, and encompasses a modern, purpose-built conference venue with superb facilities that will be a fitting backdrop to the UK’s premier sport and exercise sciences conference.

The 2019 programme reflects the broad range of interests of BASES members, and includes presentations by world-leading researchers, academics and practitioners from around the globe. I am delighted that the Scientific Programme Committee has secured outstanding opening and closing keynote sessions that you will not want to miss. Professor Carl Foster from the University of Wisconsin-La-Crosse will be drawing upon his vast experience to present the opening conference keynote on translating science to coaching in performance sport. Our closing keynote session will be presented by Professor Mike Weed from Canterbury Christ Church University and Sarah Ruane, National Strategic Lead for Health at Sport England, whose work is at the cutting-edge of physical activity and public health policy. They will be addressing the important question of whether it is possible to shift the curve of sport and physical activity participation at the population level.

The BASES Annual General Meeting (AGM) will be held at the end of the first day. A full attendance at any AGM is always a challenge after a packed day of presentations, but please remember that attending the BASES AGM provides a unique opportunity to comment on a range of issues that not only have an impact on the Association, but also on the standing of sport and exercise sciences in the UK. It is in all our interests to participate in discussions that will shape the future direction of the Association.

The essence of any scientific conference is sharing research findings. This is effectively achieved via free communications and poster presentations. These sessions should be a two-way process, with authors presenting their research findings, followed by constructive exchanges that provide opportunities to discuss, challenge and debate. This not only enhances our knowledge and understanding of phenomena, but also uncovers new and innovative avenues for research. I would therefore encourage you all to support your fellow researchers by attending and participating in the free communication presentations, 5 slides in 5 minutes presentations, and poster viewing sessions that take place across the two days of the conference.

Finally, on behalf of the Scientific Programme Committee, I hope you find the next two days collegial, enjoyable and informative, and that you leave the conference inspired and enthused about your commitment to making a difference within your realm of professional activity.
DAY 1 - TUESDAY 19 NOVEMBER 2019

08:30 Registration and refreshments

09:00-09:45 Special roundtable: Promoting the breadth and impact of sport and exercise sciences research
Prof Mike Tipton, University of Portsmouth, Dr Chris Gaffney, Lancaster University, Duncan Brown, Emsi and Prof Joan Taylor, De Montford University  
Chair: Prof John Saxon FBASSE  
Sport and exercise science continues to see significant growth in both its application and in student numbers in higher education. However, public understanding of the skills sport and exercise science fosters amongst graduates can often be narrow and outdated. In this roundtable session, presenters will explore the breadth of sport and exercise science and how education programmes can be established and evidenced within institutions.  
D1.S1. Legends Lounge

09:50 Opening address Welcome from BASES Chair, Prof Richard Tong FBASSE

10:00-11:00 Invited keynote: Translating science to coaching in performance sport
Prof Carl Foster, University of Wisconsin-La Crosse, USA  
Chair: Prof Florentina Hettinga  
Exercise science has a long tradition of trying to understand the fundamental processes that contribute to human movement; sport science aims to translate those scientific findings to an end user - the coach. In this keynote lecture, Prof Carl Foster will draw upon his extensive experience working in performance environments to discuss how more fundamental knowledge must be distilled to a focused common denominator to help the coach make decisions about the planning and execution of training programmes for athletes.  
D1.S2. Keith Weller Lounge

11:00-11:30 Poster viewing, exhibition and refreshments
Walkers’ Hall

11:30-12:30 Parallel invited symposia:

- Physical activity and heart health: cardiovascular adaptation and sudden cardiac death  
  Dr David Oxоборough, Liverpool John Moores University and Prof Sanjay Sharma, St George’s, University of London  
  Chair: Prof John Saxon FBASSE  
  Sudden cardiac death is a rare but tragic event that can occur in athletes. This session will cover the multifaceted nature of physiological adaptation in the athlete’s heart highlighting the impact of exercise training on structure and function of the cardiac chambers. Causes of sudden cardiac death will be discussed and the differentiation of the “athlete’s heart” from pathology will be explored.  
  D1.S3.1. Keith Weller Lounge  
- Health and mental wellbeing in performance sport: an interdisciplinary approach  
  Dr Andy Kirkland, University of Stirling, Dr Hayley McEwan, University of West of Scotland and Dr Paul Gorczynski, University of Portsmouth  
  Chair: Dr Stuart Beattie FBASSE  
  Research into mental health in performance sport has typically focused on athlete perspectives; however, in this interactive research project, the presenters will seek delegates’ perspectives surrounding mental health and wellbeing. “A World Café” approach will be used to draw upon and capture diverse experiences and expertise relating to mental health in the working environment.  
  D1.S3.2. Legends Lounge  
- “Lab to field” athlete testing workshop: applications of cycle-based exercise for team sport athletes sponsored by Wattbike  
  Prof Jon Clarke, England RU, Mitch Willis, Leicester City FC and Steve Marshall, Wattbike  
  Chair: Dr Adam Grainger  
  Practitioners use “off field” conditioning in an attempt to deliver an alternative training stimulus while reducing mechanical loading. These practices are often employed in-season to enhance or maintain physical qualities and in rehabilitation after injury. Using examples from high-performance sport, this session explores the theoretical and practical application of cycle-based training in the conditioning practices of team athletes.  
  D1.S3.3. Rowley Suite

12:30 -14:00 Lunch, poster discussions and exhibition
Walkers’ Hall

14:00-15:30 Parallel free communication sessions  

15:30-16:00 Exhibition and refreshment break
Walkers’ Hall

16:00-17:00 Parallel invited symposia:

- Biomechanics of wheelchair mobility: elite athletes and clinical populations  
  Prof Vicky Tollry FBASSE, Loughborough University and Prof Florentina Hettinga, Northumbria University  
  Chair: Adam Hawkey FBASSE  
  Gait analysis is a widely used method to assess gait characteristics of clinical populations, however, less is known on the biomechanics of wheelchair mobility. This session will firstly explore performance and biomechanics in elite wheelchair sport, before focusing on wheelchair propulsion in daily life and the wider context of physical activity engagement of special populations.  
  D1.S5.1. Legends Lounge  

- “Green exercise”: the influence of environment on physical activity, health and wellbeing  
  Prof Keith Davids, Sheffield Hallam University and Dr Valerie Gladwell, University of Essex  
  Chair: Dr Miranda Armstrong  
  Exercising in natural environments provides multiple health benefits, in addition to motivating and facilitating physical activity. In this session, Dr Valerie Gladwell will examine the physiological and psychological changes that result from interactions between the environment and exercise and the resultant impact on health and wellbeing. Prof Keith Davids will then explore the ecological dynamics perspective of “green exercise”.  
  D1.S5.2. Rowley Suite

- Wearable technology: friend or foe?  
  Dr Grant Abt FBASSE and Dr John Toner, University of Hull  
  Chair: Prof Lars McNaughton  
  This session will explore the use of consumer wearable technology for monitoring physical activity. The presenters will draw on their extensive expertise in this area to discuss the validity of devices for measuring physical activity, together with a review of the research examining how users engage with these technologies. Delegates will leave with a greater understanding and appreciation of the opportunities and challenges of working with wearable technology in relation to both research and practice.  
  D1.S5.3. Gallery Suite

- Nutrition, supplement use and prohibited substances in sport: issues, challenges and solutions  
  Irene Raich, sportscotland Institute of Sport and Liam Jefferson, UK Anti-Doping  
  Chair: Dr Mike Price FBASSE  
  There are significant risks for athletes associated with the use of sports foods, energy drinks, vitamins and supplements. This roundtable session will bust myths around the use of supplements and highlight the importance of a “food first” approach. Featuring an update on the upcoming changes to the World Anti-Doping Code and Prohibited List in 2020, the session will explore which ADVs apply to athlete support personnel and how practitioners can protect themselves and their athletes.  
  D1.S5.4. Premier Lounge 2

17:15-18:00 BASES Annual General Meeting
Rowley Suite

19:00 Gala drinks reception / Conference dinner
Gallery Suite / Keith Weller Lounge

Register now www.basesconference.co.uk  
Conference Programme is subject to change
## DAY 2 - WEDNESDAY 20 NOVEMBER 2019

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:15</td>
<td>Registration and drinks</td>
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<tr>
<td>09:00-09:55</td>
<td>Parallel 5 slides in 5 minutes free communication sessions</td>
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<td>10:00-11:00</td>
<td>Parallel invited symposia:</td>
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<td>Rugby World Cup 2019 special: the role of the sport scientist in player development and preparation for elite team sport competitions</td>
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<td>Dr Martin Roderick, Durham University and Jon Clarke, England RFU</td>
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<td>Chair: Prof Craig Twist FBASES</td>
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<td>Providing an academic, practitioner and athlete’s perspective, this interactive discussion will explore the support processes provided to elite rugby players and the extent to which these offer effective strategies for enhancing practice, performance and health. Practitioners and researchers will gain a deeper understanding of the athlete support process, the role of the sport scientist and the broader impact on those involved in the development and preparation of elite sports teams for major competitions.</td>
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<tr>
<td>D2.S1.</td>
<td>Placebo effects in sport and exercise</td>
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<td></td>
<td>Prof Chris Beedie, University of Kent and Prof Fabrizio Benedetti, University of Turin</td>
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<td>Chair: Dr Grant Akb FBASES</td>
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<td>The need for conceptual clarity, methodological rigour, and the elucidation of neurological mechanisms relating to placebo effects in sport and exercise has been highlighted in a recent consensus statement published in the European Journal of Sport and Exercise. In this session, two of the leading authors involved in the statement will share their viewpoints. Prof Chris Beedie will provide an overview of placebo effects in sport and exercise; and Prof Fabrizio Benedetti will expand on the neurological mechanisms underlying placebo effects.</td>
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<tr>
<td>D2.S2.1.</td>
<td>Exercise and health psychology: innovative intervention strategies to improve health and psychosocial outcomes</td>
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<td></td>
<td>Prof Catherine Sabiston, University of Toronto and Prof Amanda Daley, Loughborough University</td>
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<td>Chair: Prof Zoe Knowles FBASES</td>
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<td>In this session, Prof Catherine Sabiston and Prof Amanda Daley will present evidence about how innovative interventions can be used to encourage the population to participate in increased physical activity to improve psychological and wellbeing outcomes. The first presentation will focus on collaborative research landscapes for implementing physical activity interventions to improve psychosocial wellbeing for individuals with cancer. The second will focus on how the population can be “nudged” into making better decisions about their health and wellbeing. Using physical activity calorie equivalent labelling as an exemplar,</td>
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<tr>
<td>D2.S2.2.</td>
<td>Exercise and immune function in elite athletes</td>
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<td>Prof Neil Walsh, Bangor University and Dr Lettie Bishop, Loughborough University</td>
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<td>Chair: Prof Neil Walsh</td>
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<td>This session will focus on exercise, immune defence and illness. The good, the bad and the ugly. Prof Neil Walsh and Dr Lettie Bishop will demonstrate how past research has led to current thinking on the subject and ask the question: do the changes seen in immune defence matter clinically? The presentations will consider whether it is time for a new paradigm to maximise the impact of illness on performance and, with this in mind, explore new perspectives on nutritional interventions for athlete health.</td>
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<tr>
<td>D2.S2.3.</td>
<td>Biomechanical analysis of walking behaviour and gait patterns: research, impact and implications</td>
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<td>Dr Brook Galna, Newcastle University Clinical Ageing Research Unit and Dr Siobhan Strike, University of Roehampton</td>
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<td>Chair: Dr Brook Galna</td>
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<td>This session will explore the research, impact and applications of analysing walking behaviour and gait patterns. Dr Siobhan Strike will explore the challenges of asymmetric movements, as this is particularly relevant in sport (such as running, dynamic tasks, cutting manoeuvres), and in rehabilitation and in disability sport (translational amputations). Dr Brook Galna will then explore the analysis of walking behaviour and gait patterns in persons living with neurogenerative conditions, and will expand on its potential for diagnosis, progression monitoring and interventions.</td>
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<tr>
<td>D2.S4.1.</td>
<td>Multidisciplinary team approach to supporting exercisers with relative energy deficiency in sport (RED-S)</td>
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<td>Dr Nicky Keay, Durham University and Renee McGregor, EN:SPIRE Clinic</td>
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<td>Chair: Prof Lars McNaughton FBASES</td>
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<td>Low energy availability due to relative energy deficiency in sport (RED-S) results in adverse clinical outcomes on health and performance affecting a wide range of exercisers. Effective identification and management of individuals at risk of RED-S requires collaboration from members of multidisciplinary teams: medical doctors, clinical dieticians, healthcare professionals and coaches. The presenters will discuss clinical practice to support exercisers at risk of RED-S, drawing on recent and ongoing research into the condition.</td>
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<tr>
<td>D2.S4.2.</td>
<td>Invited keynote: Shifting the curve of sport and physical activity participation</td>
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<td>Prof Mike Weed, Canterbury Christ Church University and Sarah Ruane, Sport England</td>
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<td>Chair: Prof John Saxton FBASES</td>
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<td>In this interactive keynote session, Prof Mike Weed will present national survey and intervention data as a means to explore whether participation levels could be saturated, from a comparison of changes in individual participation versus changes in the population curve, prior to addressing the implications for future policy and implementation. Sarah Ruane will then share the latest insight and trends in participation, before considering what must change and what can be built on to increase participation in the context of what is shaping our society’s physical activity behaviours.</td>
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<tr>
<td>D2.S4.3.</td>
<td>Awards ceremony and closing address</td>
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<td>Chair: Prof Mike Weed</td>
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<td>This session will describe the evidence base for the Strong, Steady &amp; Straight Consensus Statement from the Royal Osteoporosis Society. Dr Katherine Brooke-Wavell and Prof Dawn Skelton will explain the importance of progressive strength training, impact and falls prevention exercise for improving bone strength and reducing falls risk. The importance of exercise in “guarding” for the spine will be discussed, including techniques for moving and lifting, and for posture and pain following vertebral fractures.</td>
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### Physical Activity for Health

**Chair:** Dr David Broom FBASES  
**14:00-15:30, D1.S4.1 Gallery Suite**

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<th>Time</th>
<th>Session</th>
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<th>Authors</th>
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<tr>
<td>14:00</td>
<td>D1.S4.1(1)</td>
<td>Associations of total daily sitting time with cardiovascular disease and diabetes incidence: a systematic review and meta-analysis of prospective studies</td>
<td>Daniel P Bailey, David J Hewson, Rachael B Champion &amp; Suzan M Sayegh</td>
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<tr>
<td>14:15</td>
<td>D1.S4.1(2)</td>
<td>Development of a sedentary behaviour workplace intervention for police staff using the behaviour change wheel</td>
<td>Marshia L Brierley, Angel M Chater, Lindsey R Smith &amp; Daniel P Bailey</td>
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<tr>
<td>14:30</td>
<td>D1.S4.1(3)</td>
<td>Using accelerometry to classify physical activity intensity in older adults: what is the optimal wear-site?</td>
<td>Michael J Duncan, Alex Rowlands, Chelsey Lawson, Sheila Leddington-Wright, Matt Hill, Martyn Morris, Emma Eyre &amp; Jason Tallis</td>
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<tr>
<td>14:45</td>
<td>D1.S4.1(4)</td>
<td>Effectiveness of an 8-week exercise intervention on coping skills, resilience and physical fitness in drug addicts</td>
<td>Gianpiero Greco, Stefania Cataldi, Piergiorgio Di Terlizzi &amp; Francesco Fischetti</td>
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<tr>
<td>15:00</td>
<td>D1.S4.1(5)</td>
<td>The effect of high impact exercise on bone marrow lesions in postmenopausal women</td>
<td>Chris Hartley, Robert Kerslake, Jonathan P Folland &amp; Katherine Brooke-Wavell</td>
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### Physiology and Nutrition

**Chair:** Prof Craig Williams FBASES  
**14:00-15:30, D1.S4.2 Premier Lounge 2**

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>14:00</td>
<td>D1.S4.2(1)</td>
<td>Post-exercise supplementation of sodium bicarbonate improves acid base balance recovery and subsequent high-intensity boxing specific performance</td>
<td>Lewis A Gough, Steven Rimmer, Andy Sparks, Lars R McNaughton &amp; Matthew Higgins</td>
</tr>
<tr>
<td>14:15</td>
<td>D1.S4.2(2)</td>
<td>The dose-response effect of sodium bicarbonate on cycling to exhaustion performance and gastrointestinal discomfort</td>
<td>William H Gurton, Lewis A Gough &amp; Katharine E Reed</td>
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<tr>
<td>14:30</td>
<td>D1.S4.2(3)</td>
<td>Protein supplementation increases gains in maximal oxygen uptake and impacts skeletal muscle adaptations during prolonged endurance training</td>
<td>Pim Knuiman, Roland Hangebroek, Mark Boekschoten, Luc van Loon, Jeroen Wouters, Renger Wilkamp, Maria Hopman &amp; Marco Mensink</td>
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<tr>
<td>15:00</td>
<td>D1.S4.2(5)</td>
<td>Flow resistant face masks worn during high-intensity interval training sessions do not improve 5-kilometre running performance</td>
<td>Mark A Faghy, JP Mayes, Peter I Brown, James Keenan &amp; Tom M Maden-Wilkinson</td>
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<tr>
<td>15:15</td>
<td>D1.S4.2(6)</td>
<td>Hypertension and metabolic syndrome prevalence and contributing factors observed in a territory police organisation in England</td>
<td>James Yates, Jeffrey Aldous, Andrew Mitchell, Daniel Bailey &amp; Joanna Richards</td>
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### Psychology

**Chair:** Dr Ian Taylor  
**14:00-15:30, D1.S4.3. Legends Lounge**

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<th>Time</th>
<th>Session</th>
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<tr>
<td>14:00</td>
<td>D1.S4.3(1)</td>
<td>How does anyone know when they’re really ready? Understanding competitive athletes’ perceptions of psychosocial readiness to return to sport</td>
<td>Adam Gledhill, Andrew Harlley &amp; Matthew Allanson</td>
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<tr>
<td>14:30</td>
<td>D1.S4.3(3)</td>
<td>Exploration of psychological resilience during a 25-day endurance challenge in an extreme environment</td>
<td>David W Harrison, Mustafa Sarkar, Chris Saward &amp; Caroline Sunderland</td>
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</table>
### Psychology - continued

**Chair:** Prof Zoe Knowles FBASES

**14:00-15:30, D1.S4.3. Legends Lounge**

**15:00 D1.S4.3(5)** The BASES Expert Statement on Burnout in Sport  
Daniel Madigan, Henrik Gustafsson, Alan L. Smith, Thomas D. Raedeke & Andrew P. Hill

**15:15 D1.S4.3(6)** Exercise addiction prevalence and correlates in the absence of eating disorder symptomology. A systematic review and meta-analysis  
Mike Trott, Sarah Jackson, Joseph Firth, Abigail Fisher, James Johnstone, Amit Mistry, Brendon Stubbs & Lee Smith

### Sport and Performance (Session 1)

**Chair:** Prof Craig Twist FBASES

**14:00-15:30, D1.S4.4. Keith Weller Lounge**

**14:00 D1.S4.4(1)** Do practical cooling manoeuvres utilised during a soccer-specific warm-up and at half time improve simulated soccer performance at 28°C WBGT?  
Jeffrey W. Aldous, Peter McDonald, Liam P. Sweeney, Nicole Raffermati, Joanna Richards, John Hough & Christopher Tyler

**14:15 D1.S4.4(2)** Rugby-specific static activities: are they actually high-intensity?  
Eddie J Bradley, Elisabeth Board, Will Evans & David Archer

**14:30 D1.S4.4(3)** An exploratory case study examining the training loads and effects of mixed martial arts competition preparation  
Christopher Kirk, Dave Clark, Carl Langan-Evans & James Morton

**14:45 D1.S4.4(4)** Repeated-sprint training in soccer: should we use straight-line and shuttle sprints interchangeably?  
Jonathan M Taylor, Shaun J McLaren, Tom W Macpherson, Iain R Spears & Matthew Weston

**15:00 D1.S4.4(5)** A comparison of a sports-specific, foot-mounted inertial measurement system and three commercial Global Positioning Systems to quantify soccer-specific movement patterns  
Mark Waldron & Jamie Harding

**15:15 D1.S4.4(6)** A comparison of match demands for professional soccer players versus elite youth soccer players using ball-in-play  
Joshua D Wass

### Sport and Performance (Session 2)

**Chair:** Prof Clyde Williams FBASES

**14:00-15:30, D1.S4.5. Rowley Suite**

**14:00 D1.S4.5(1)** Incidence and prevalence of lumbar stress fracture in English County Cricket fast bowlers, association with bowling workload and seasonal variation  
Peter Alway, Katherine Brooke-Wavell, Ben Langley, Mark King & Nicholas Peirce

**14:15 D1.S4.5(2)** The minimum effective training dose required to increase 1RM strength in resistance-trained men: a systematic review  
Patroklos Androulakis-Korakakis, James P Fisher & James Steele

**14:30 D1.S4.5(3)** The influence of cornering on track cycling aerodynamics  
Shaun Fitzgerald, Richard M Kelso, Paul N Grimshaw & Andrew Warr

**14:45 D1.S4.5(4)** The effects of age and body fat content on post downhill run recovery following whole body cryotherapy  
Adnan Haq, William J Ribbans, & Anthony W Baross

**15:00 D1.S4.5(5)** A meta-analysis of the acute effect of strength training on speed running performance  
José F Barquero Jiménez & Walter Salazar Rojas

**15:15 D1.S4.5(6)** The relationship between integrated external:internal load ratios and next-day subjective wellbeing in academy rugby union players  
Richard Taylor, Tony Myers & Ibrahim Akubat
### Biomechanics and Motor Behaviour

**Chair: Prof Florentina Hettinga FBASES**

**11:30-12:45, D2.S3.1 Premier Lounge 2**

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<td>A kinetic and kinematic analysis of the rear foot elevated split squat five repetition maximum</td>
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<td>Celeste A Wilkins, Kathryn J Nankervis, Laurence Protheroe &amp; Stephen B Draper</td>
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### Physical Activity for Health

**Chair: Dr Daniel Bailey**

**11:30-12:45, D2.S3.2 Gallery Suite**

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<td>males: a systematic review and meta-analysis</td>
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<td>Shaun M Phillips &amp; Jennifer M Campbell</td>
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### Psychology (Session 1)

**Chair: Prof Costas Karageorghis FBASES**

**11:30-12:45, D2.S3.3 Legends Lounge**

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<td>football academy</td>
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<td>Callum A O’Malley, &amp; Andrew L Evans</td>
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**Chair: Prof Andrew Edwards FBASES**

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<td>Thomas P Crag &amp; Paul A. Swinton</td>
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<td>Effects of training and competition on the sleep of elite athletes: a systematic review and meta-analysis</td>
<td>Spencer S Roberts, Wei-Peng Teo, &amp; Stuart Warrington</td>
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**Chair: Dr Kiara Lewis FBATES**

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<td>James Faulkner, Keeran Stone, Simon Fryer, Amy Wright, Lee Stoner, Louis Martinelli, Helen Hobbs &amp; Danielle Lambrick</td>
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<td>D2.S1.1(2) Determinants of physical activity are stronger predictors of health-related quality of life in women with polycystic ovary syndrome than physical activity behaviours</td>
<td>Chris Kite, Ian Lahart, Ioannis Kyrou, Harpal Randeva &amp; James Brown</td>
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<td>09:16</td>
<td>D2.S1.1(3) Physical activity in physical education and school recess: different sides of the same coin?</td>
<td>Luis M Moral-Moreno</td>
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<td>Donna Nicholas &amp; Emily Ryder</td>
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<td>D2.S1.1(5) Accelerometer based physical activity levels differ between week and weekend days in British preschool children</td>
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<td>Alyx Taylor, Phil Heritage, Jack Humphrey &amp; Kate Rogers</td>
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## Physiology and Nutrition

**Chair: Dr Mike Price FBATES**

**09:00-09:55, D2.S1.2. Premier Lounge 2**

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<td>Victoria Morari, Louise Croft, Daniel P Bailey, Rebecca L Jones &amp; Julia K Zakrzewski-Fruer</td>
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<td>Phillip Smith &amp; Nicolas Berger</td>
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<td>Tim Podlogar, Bonnie Free &amp; Gareth A Walls</td>
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## Psychology

**Prof Stuart Beattie FBATES**

**09:00-09:55, D2.S1.3. Legends Lounge**

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<td>Natalie Brown, Camilla Knight, &amp; Laura Forrest</td>
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<td>D2.S1.3(2) Motivation of Special Olympics volunteers: what keeps them coming back?</td>
<td>Liz Carlin &amp; David Hassan</td>
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Renzo Kerr Cumbo

09:24 D2.S1.3(4) Relationship between perceived availability of social support, re-injury anxiety in return to sport and psychological readiness to return to sport in competitive cheerleaders
Megan Lambert & Adam Gledhill

09:32 D2.S1.3(5) Effects of virtual reality imagery modelling on novice taekwondo athletes’ imagery abilities and anxiety level
Garry Kuan, Yee-Cheng Kueh & Nur Haida Ariffin

09:40 D2.S1.3(6) Influence of a novel mental fatigue protocol on mental fatigue and psychophysiological and performance responses to a 3 km time-trial in trained runners
Shaun M Phillips, Rachel Webb & Hugh Richards

09:48 D2.S1.3(7) Mindful sport performance enhancement in action: a case study with an elite category one football academy
Amy L Spencer, Keith A Kaufman, Carol R Glass, Tim R Pineau, Stewart T Cotterill & Tim Holder

Sport and Performance (Session 1)  Chris Barnes FBASES
09:00-09:55, D2.S1.4. Rowley Suite

09:00 D2.S1.4(1) Seasonal changes in glenohumeral joint isokinetic strength in professional rugby league players
Matthew Haines, Michael Fish & David O’Sullivan

09:08 D2.S1.4(2) The reliability of a battery of fitness assessments when performed around habitual in-season training in youth elite soccer players
Kevin J Enright, James Morton, John Iga, Daniel Lothian, Simon Roberts & Barry Drust

09:16 D2.S1.4(3) Competitive engineering for enjoyment in age-grade rugby
Ben Jones, John Mills & Gavin Sandercock

09:24 D2.S1.4(4) Performance related feedback in elite English soccer
Tom Page, Barry Drust, Zoe R Knowles, Matt Green & Matthew Andrew

09:32 D2.S1.4(5) Comparison of wearable GPS devices for workload monitoring across different weather conditions and time slots
Shobhit Raizaday, & Nairn Scobie

09:40 D2.S1.4(6) Changes in eccentric hamstring strength following competitive soccer match play
Owain Rowat & Damian Harper

09:48 D2.S1.4(7) Physical fitness characteristics during a selection event for a female racing driver series
Anthony Turner, Marisa Dawes, Lara Carlson & Peter McKnight

Sport and Performance (Session 2)  Chair: Dr Adam Grainger
09:00-09:55, D2.S1.5. Keith Weller Lounge

09:00 D2.S1.5(1) Does bio-banding influence physical performance profile in youth basketball?
Jorge Arede, Sean Cumming & Nuno Leite

09:08 D2.S1.5(2) Workload assessment and time-loss incidence in elite rugby union players
Ben Cousins, John Morris, Caroline Sunderland, Anthony Bennett, Golnaz Shahtahmasseb & Simon Cooper

09:16 D2.S1.5(3) The association between contact injuries and training load indices in elite soccer players
Caoimhe Tiernan, Mark Lyons, Tom Comyns, Alan Nevill & Giles Warrington

09:24 D2.S1.5(4) Predictive models for isokinetic ankle muscle strength relating to age, mass, stature, sex and shoe size
Michael Fish, Matthew Haines, James Milligan & Jenny Killey

09:32 D2.S1.5(5) Vertical and horizontal ground reaction force post-activation potentiation following flywheel eccentric overload half squat exercise
Stuart McErlain-Naylor & Marco Beato

09:40 D2.S1.5(6) Lifting straps do not affect mean velocity during deadlifts performed with submaximal loads
Dan Omcirk, Jan Malecek, Ivan Jukić & James Joseph Tufano

09:48 D2.S1.5(7) The relationship between handgrip strength and upper body pushing and pulling performance in Brazilian Jiu-Jitsu athletes
Shaher Shalfawi
systematically identified and selected. The resulting multi-component sedentary behaviour intervention is tailored to police staff and ready for pragmatic delivery in their workplace. Explicit use of behaviour change theory in multi-component intervention design will allow for researchers to better assess the relative effectiveness of component BCTs and improve evidence-based practice.

D1.S4.1(3). Using accelerometry to classify physical activity intensity in older adults: what is the optimal wear-site?

MICHAEL DUNCAN1, ALEX ROWLANDS2, CHELSEY LAWSON3, SHEILA LEDDINGTON-WRIGHT1, MATT HILL1, MARTYN MORRIS3, EMMA EYRE1 & JASON TALLIS1

1Coventry University, 2University of Leicester
*Corresponding author: aa8396@coventry.ac.uk
@MikeDunky

In the context of an ageing society accelerometry is particularly appropriate to assess physical activity (PA) and sedentary behaviour (SB) in older adults as accelerometry requires no user input during monitoring resulting in greater wearer compliance in older adults, as compared to younger age groups (Doherty et al., 2017, PLOS ONE, 12, e0169649). Although accelerometry is becoming more common in assessing PA and SB in older adults (Wullems et al., 2017, PLOS ONE, 12, e0188215), few studies have calibrated accelerometer cutpoints with an older adult population and the predominant approach has been to apply cutpoints calibrated in younger adults (Falck et al., 2016, British Journal of Sports Medicine, 51, 800–811). This study aimed to address this issue by determining the optimal accelerometer wear-site specific cut-points for discrimination of SB, light PA and moderate-to-vigorous PA (MVPA) in older adults. Twenty-three adults (14 females) aged 55 to 77 years wore a GENEActiv accelerometer (Activinsights, Cambridge, UK) on their non-dominant wrist, dominant wrist, waist and dominant ankle whilst undertaking eight, five-minute bouts of activity: cycling, VO2 lay supine, seated reading, slow walking, medium walking, whilst undertaking eight, five-minute bouts of activity: cycling, VO2 lay supine, seated reading, slow walking, medium walking, slow walking, folding laundry, sweeping, and stationary cycling. VO2 was assessed concurrently using indirect calorimetry (Cortex Metalyser, Cortex, Leipzig, Germany). Receiver-operating-characteristic (ROC) analyses were used to derive wear-site specific cut-points for classifying intensity. Being lay supine and seated reading were classified as sedentary (<1.5 METs), laundry as light (1.51–2.99 METs) and sweeping, slow, medium and fast walking and cycling all classified as moderate intensity (≥3 METs). Areas under ROC curves (AUC) indicated that classification of sedentary activity was good for the non-dominant wrist and excellent for all other wear sites. Classification of moderate-to-vigorous physical activity (MVPA) was excellent (AUC ≥ 0.90) for the waist and ankle, good (AUC = 0.80–0.89) for the waist and poor (AUC < 0.70) for the dominant and non-dominant wrists. Overall, the ankle location performed better than other locations. This study presents novel data quantifying energy expenditure in different tasks indicative of daily living and calibrating the GENEActiv accelerometer during these activities when worn at different body locations. The results of the current study suggest that GENEActiv accelerometers demonstrated acceptable criterion validity to assess SB and MVPA. Ankle worn accelerometry appears to provide the most suitable wear location to quantify MVPA and waist worn accelerometry provides the most suitable wear location to quantify SB, in apparently healthier older adults.

D1.S4.1(4). Effectiveness of an 8-week exercise intervention on coping skills, resilience and physical fitness in drug addicts

GIANPIERO GRECO*, STEFANIA CATALDI, PIERGIORGIO DI TERLIZZI & FRANCESCO FISCHETTI

University of Study of Bari, Italy
*Corresponding author: gianpiero.greco@uniba.it
@giagre76

Drug addiction may cause health problems and social exclusion (Neale, 2006, In R. Hughes (Ed.), Drugs, policy and politics (pp. 201–226). Maidenhead: McGraw-Hill/Open University Press). Although studies indicate that physical activity levels are inversely related to substance use disorders, it is not clear the role of exercise during drug abuse treatment (Weinstock, Barry, & Petry, 2008, Addictive Behaviors, 33, 1072–1075). Therefore, the purpose of this study was to investigate the effects of 8-week exercise intervention, as an adjunct to treatment for drug dependent patients (cannabis, opiates, amphetamines, cocaine and heroin addicted), on psychological and physical fitness variables. With institutional ethics approval, 34 male participants (mean age: 45.2 ± 12.6 years; stature: 1.77 ± 0.06 m; body mass: 74.2 ± 9.7 kg) were assigned to an experimental group (n = 17) that performed exercise intervention (i.e., aerobic-anaerobic exercise at moderate-intensity plus behavioural training), or a control group (n = 17). At baseline and after 8-week, COPE-NVI (60-item self-report questionnaire), CD-RISC (10-item scale) and physical fitness tests (i.e., Stork balance stand, functional reach, lateral step and push-up tests) assessed coping skills, resilience and fitness levels, respectively. A 2-way analyses of variance (ANOVA) with repeated measures and paired t-test analysis were performed to locate between- and within-trial variance, and the magnitude of significant effects was determined using Cohen’s d effect sizes. Statistical significance level was set at P < 0.05. Adherence to exercise was 94 ± 2.6% and after intervention significant improvements in the skills and strategies adopted to cope with stressful events (P < 0.01, d = 0.80) and in ability to deal with negative experiences (P < 0.01, d = 0.87) were found. In addition, the physical fitness components as static (P < 0.01, d = 0.96) and dynamic balance (P < 0.01, d = 0.75), anaerobic power and coordination (P < 0.01, d = 0.89), and endurance of the upper body musculature (P < 0.01, d = 0.58) are significantly improved in the experimental group. No relevant changes were found in the control group. Findings highlighted the positive relationship between increased physical fitness and improved functional and adaptive modalities used to cope with stressful events and negative experiences. Therefore, exercise intervention was effective to improve mental and physical wellbeing in drug addicts.
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