Welcome to the first Sport & Exercise Science Research group newsletter of the new academic year 2010/11, in which we continue to provide an update on research related activities within the discipline of Sport & Exercise Science.

Staff within the research group include biomechanists (Dr. Matt Greig, Dr. Pascual Marqués), Physiologists (Craig Bridge, Kelly Marrin, Dr. Andy Sparks), psychologists (Dr. Evelyn Carnegie, Emma Duxbury, Paul Ellison, Jennie Killilea, and Dr. David Marchant) and technicians (Tom Bailey and Phillip Chandler).

Staff have presented at both National and International conferences, continue to work with high performance sports and the following peer review papers and abstracts have already been published this academic year:


In 2010, Paul Ellison presented a poster at the 'Postgraduate Research in Arts, Social Sciences, and Humanities (PRASH) Conference' held here at Edge Hill University. The conference is designed specifically for postgraduate researchers to share ideas and receive feedback. Paul presented his work entitled 'An assessment of a familiarisation strategy for the Sport Vision Trainer' which is the first study of Pauls MPhil programme, in the area of expert performance and visual performance, which is being supervised by Dr. David Marchant.

In June 2010, Dr. Matt Greig and Kelly Marrin both travelled to Baltimore, USA to present at the American College of Sports Medicine Annual Meeting. This conference represents the largest International conference in the field of sport and exercise science and was held in conjunction with the World Congress on Exercise is Medicine. Both Matt and Kelly were completing oral presentations at this conference to a field of experts in the area. Matt presented his study 'A biomechanical rationale for soccer half-time re-warm-up strategies' within the biomechanics section of the conference. The paper was well received and Matt also had the opportunity to discuss his ongoing work at the meeting team-sports special interest group of which he is a key member. Kelly presented her work entitled 'A positive relationship between endogenous melatonin and core temperature responses to exercise' within the endocrinology section at the conference. This work created a good amount of positive discussion. Kelly also attended the meeting of the environmental physiology interest group.

In July 2010, Craig Bridge presented a poster entitled 'The Activity Profile in International Taekwondo Competition is Modulated by Competitors Weight Category' at the 15th Annual Congress of the European College of Sports Science, held in Antalya, Turkey. This work is part of Craig’s doctoral studies which he is completing here at Edge Hill University.
AERODYNAMICS RESEARCH PROJECT

Dr. Pascual Marqués is currently investigating the aerodynamic characteristics of classic aircraft wing concepts originally designed for aviation but adapted for applications in motor racing. An aircraft wing operates at high Reynolds numbers (that is, the wing is very large and aircraft speeds are very high). On the contrary, the same wing profile in a race car operates at very low Reynolds numbers (the wing is very small and car speeds can be as low as 30 mph in tight corners).

Pascual has recently completed two aerodynamics projects. In the first project, two airfoils widely used in Aeronautical Engineering are adapted for applications in the design of the GT sportscar wing. The wing was fitted with endplates and a Gurney flap. The full paper will be published soon in the Journal of Sports Engineering and Technology. The second project involves the adaptation of another airfoil often used in aircraft wings to Formula 1 cars. In this case, the aerodynamic analysis is quite intricate and we look at the stability of the boundary layer as the car goes around the racing track. Pascual aims to present the latter study at the AIAC14 Congress in Melbourne, Australia, in February 2011.
FOOTBALL RESEARCH INFORMS INTERNATIONAL TEAM

Dr. Matt Greig continues to use his research into the biomechanics of soccer performance in order to inform applied practice. Matt works as a sports scientist with the England youth football teams. England u16s won the Nordic Tournament in Finland this year, beating the hosts, Denmark and Iceland in the group, before a clear victory over Sweden in the final. The u17s also recently became European Champions.

BASES International Travel Grant Success

Kelly Marrin was awarded an International travel grant by the British Association of Sport & Exercise Sciences (BASES) to present her work entitled ‘A positive relationship between endogenous melatonin and core temperature responses to exercise’ at the 2010 ACSM Annual Meeting in Baltimore, USA. BASES award a limited number of grants each year based on: The calibre and relevance of the international sport and exercise science-related scientific conference, the impact and interest of the abstract, and the applicant’s service to BASES. Subsequently, Kelly who is a BASES accredited Sport & Exercise Scientist (Physiology—Scientific Support) was invited to write the article ‘Melatonin: How important is the body clock for athletes?’ for the BASES Sport & Exercise Scientist publication. This outlined the physiological significance of melatonin for sporting competition, with particular reference to the recent Commonwealth Games held in Delhi.

New Department Website

The Department Sport and Physical Activity website is now improved and updated. Check it out for news and updates on staff research and consultancy work.

www.edgehill.ac.uk/sport

New Cutting Edge Equipment

Sport and Exercise Science continues to see investment in equipment that will allow staff and students to conduct cutting edge research. We have recently added the following to our already well-equipped labs:

• Upgrade to the Qualysis analysis system
Findings: Attentional Focus and Muscular Endurance

Dr David Marchant’s research continues into the influence attentional focusing instructions have on effective movement execution. In a forthcoming publication in Research Quarterly in Exercise and Sport participants completed bench press and squat tasks to failure using different attentional focusing instructions. The study is the first to demonstrate that instructions focusing attention externally onto exerting force against an object facilitates muscular endurance on such tasks.


Presentations: Forthcoming BPS Sport and Exercise Psychology Conference

Sport and Exercise Science staff Dr David Marchant, Emma Duxbury and Paul Ellison will be presenting at the British Psychological Society’s Division of Sport & Exercise Psychology conference 2010 in London this December. Dr Marchant will be presenting recent findings on attentional focusing instructions and endurance, Emma Duxbury will present her recent work on social support in the reflective Process of trainee Sport Psychologists. Paul Ellison will be presenting his early PhD research using the Sport Vision Trainer to assess visual skill development in athletes. Dr Marchant is part of the Scientific organising committee for this conference, which sees international researchers coming to the UK.

New Free Online Journal Launched

Dr David Marchant has recently been appointed Associate Editor of a new Publication: Frontiers in Movement Science and Sport Psychology - a free online open access journal, which is a Specialty Section of Frontiers in Psychology. Read Dr Marchant’s inaugural article, Attentional Focusing Instructions and Force Production at: http://www.frontiersin.org/movement_science_and_sport_psychology

Psychology, Exercise and Obesity

Dr David Marchant has recently been contributing to an interdisciplinary British Psychological Society initiative assessing the role of Psychology in understanding Obesity. Dr Marchant’s role has been to review recent exercise psychology research assessing key issues influencing obese individuals participation in and experiences of exercise. This work is part of a larger BPS position statement on Obesity, to be published early in 2011.

“Exercise Psychologists have a key role to play in understanding, promoting and supporting exercise for the obese.”