Regulation of Performance

With the overall aim of understanding how both the psychological and physical systems contribute to the performance of an athlete, this RIG focuses on multi and interdisciplinary research. RIG members include physiologists, biomechanists and psychologists collaborating together on research projects which cover the spectrum of sport and exercise from cycling endurance sports to Pilates.

Key research interests:

Regulation of performance in endurance cycling, decision-making in sport; interaction between affect, goal achievement and performance within team and individual sports; central vs peripheral fatigue, goal striving and goal disengagement, situational motivation and its regulation, motivation profiles and their effect on situational motivation and affect regulation during performance, mass perception in prehension, movement volition, power profiles and pacing within endurance sports

Ongoing projects:

Dr. Mark Corbett is measuring muscular activity through electromyography and is interested in its relationship to power output during endurance cycling. Mark’s other research areas include biomechanics of cycling, bike fitting and clinical gait analysis.

Dr. Tom Cullens’s research interests revolve around the biochemical processes that underpin beneficial or negative adaptations (such as overtraining) to acute exercise and chronic training. He is particularly interested in the interaction of metabolism and immune function within the response to exercise. While Tom’s research primarily focuses on the application of this information in the real world he is also interested in the mechanisms that underpin these responses.

Dr. Dan Eastough is a sports biomechanist undertaking research within the areas of mass perception in prehension, specifically focusing currently on reach phase analysis and object mass recognition. Dan’s other research interests include perception and action, motor control, effects of observation on action and movement volition.

Dr Nicola Garrett is a sports physiologist with a strong interest in physiological responses to exercise in extreme conditions, such as heat and cold stress and altitude. Previous and current research include perceptual responses to exercise in the heat and pre-warming and pre-cooling methods to enhance performance.

Annie Lambeth-Mansell’s research interests include the physiological demands of mountain biking and pacing during endurance events. A keen mountain biker herself, Annie is currently analysing the power profiles during cross-country mountain biking specifically in multi lap events with Louise Martin.

Dr Louise Martin is a sports physiologist with an interest in endurance performance particularly cycling and swimming. Having completed a range of projects on the diurnal variation of sub-maximal exercise, she is currently investigating variability of pace profiles during sports competition and the role of decision making to this.

Andrew Renfree is interested in the psycho-physiological regulation of muscular work during exercise. In particular, he is interested in the central and peripheral factors that influence the selection and maintenance of exercise intensity during a range of different endurance activities.

Dr. Clare Rhoden is a sport psychologist with an interest in a range of both team and individual sports hence her current work with colleagues in this group include the analysis of affect and emotion pre- during and post sports performance in self-paced endurance cycling and in mixed doubles badminton. Relationships between affect and goal achievement are examined in both and this is paralleled by the analysis of relationships with performance and other physical parameters.

Julia West’s interests are related to motivation for performance particularly at the situational level. More specifically, she is interested in how motivational orientation may determine training and performance outcomes and intensities.

Discussion and collaboration

The group are keen to discuss and collaborate in these research areas and would welcome contact from other researchers and potential applicants wishing to undertake Masters or PhD research.

Publications:


Renfree, Andrew, Martin, Louise, Micklewright, D. and St Clair Gibson, Alan (2014) Application of Decision-Making Theory to the Regulation of Muscular Work Rate During Self-Paced Competitive Endurance Activity. Sports Medicine , 44 (2), pp. 147-158. ISSN Print: 1179-2035 Online: 0112-1642


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