From the Sunshine Coast to Rio de Janeiro
Along the Pathway Of High Performance Sport

University of the Sunshine Coast
Research Week Evening Seminar
13th July 2016
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Measuring what we can’t see

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Feeding athletes: Not as simple as it seems

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Human Factors Research in Sport

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What is human factors research and how does it apply to injury prevention and performance in sport?

- Human error is the cause of failures

- To understand failure, you must examine failures only

- Unreliable and erratic humans make systems unpredictable

- Systems can be made more efficient by restricting humans through procedures and automation.

- Human error is a symptom of problems across the system (*it is a consequence not a cause*)

- Incidents and failures are caused by multiple interacting factors

- To understand ‘failure’ look at why people’s actions made sense at the time

- Performance and safety evolve through actions and practices at all levels of the system.
• Understanding sport safety and performance as a product of the system in which it operates
• Safety is the responsibility of all stakeholders
• Contributory factors to performance and injury exist at all levels of the system
• Integrated communication should inform policy and performance alike
Current projects

- A systems approach to understanding how concussion is prevented, identified, and treated in grassroots rugby.
- Running injury epidemiology: A systems approach to identifying risk factors and how they are distributed through the system.
- Distributed cognition in the cycling peloton: A systems analysis of team cognition and decision making during road racing.
- A systems approach to elite football performance analysis. How to improve the measurements and metrics of performance.
- Investigating the change in umpires’ situation awareness, decision making, teamwork and communication.
- Identifying the controls and influencing factors to doping in elite cycling.
Sports Psychology

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Sport psychology is bigger than just competition

For example, sports injuries
Anderson & Williams’ Model of Stress and Athletic Injury

Potential stressful situation → Perception of threat → Stress response → Increased state anxiety → Attention or distractions → Muscle tension → Injury

Psychological skill interventions

Personality factors

History of stressors

Coping resources
Some Current USC research...

- Physio’s barriers and enablers to using ‘sport’ psychology interventions in their treatments.

- Social support and ACL recovery.

- Potential of ‘sport psychology’ strategies to help maintain perceived control and function in people with Parkinson’s disease.
How Universities can support sporting success: Athlete perspective, theory and practice

Bridie Kean

Bronze and Silver Paralympic Medallist (Basketball)
PhD Candidate

Supervisors: Dr Florin Oprescu, Dr Michele Verdonck, Professor Marion Gray & Professor Brendan Burkett

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Research project 1: “A Framework for an Adapted Athletics program at Australian Universities”

- Sporting success: International selection; Paralympic medals
- Academic success: Graduation rates; career pathway

Initial findings: How to create dual success for Para-athletes at Universities

Dual success

Athlete perspective

Provide academic support

Resources for elite training

Support for balancing both pursuits
Initial findings from research project 1: How Universities can support athletes achieve dual pathways

Research project 2: Action Research Project implementing and evaluating Australia’s first Para-sport dual stream program at USC
Collaboration with Basketball Australia and Queensland Academy of Sport, CoE for Applied Sport Science
The USC SEEDS Program plants excellence for para-athletes and their studies

Para-athletes of the future will have the chance to excel in both the sporting arena and the classroom when the University of the Sunshine Coast launches a program called the Sports Elite and Education Dual Stream (USC SEEDS) in Semester 2.

The program will enable athletes with a disability to combine tertiary studies with high-performance sports training and coaching at USC’s state-of-the-art sports facilities.

USC SEEDS is the first dual para-sport and academic program to be offered at an Australian university and will be managed by USC PhD researcher Bridie Kean, an Australian dual Paralympic medallist and a research scholar at the Queensland Academy of Sport (QAS) Centre of Excellence for Applied Sport Science Research.

Ms Kean works alongside USC Professor of Sport Science and Paralympic gold medallist Brendan Gurr, as well as academics from the University’s public health and occupational therapy disciplines.

Help us provide an environment for student athletes to reach their full potential

Ms Kean, who captained Australia to a silver medal in wheelchair basketball at the 2012 London Games, said her own successes in sport and academia were due to participating in an existing program at an American university.

“Being an athlete with a disability, I always knew the value of both sport and education in my life,” she said.

“Being exposed to these opportunities motivated me to pursue a career in sport science and management.”

Head of the USC School of Health and Sport Science Professor John Lowe said USC SEEDS would offer a pathway not previously available to Australian para-athletes.

“Providing this kind of opportunity to elite athletes with a disability is an Australian first and I’m extremely proud to see USC taking a leading role in the area,” he said.

The opening stages of the program joins USC with Basketball Australia and the QAS Centre of Excellence for Applied Sport Science Research to start a study pathway for wheelchair basketball athletes.

Contact the researcher

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Donate now

Make a donation via USC’s secure online payment gateway.

100% of your donation will go towards USC SEEDS and is tax-deductible.

For more information on donating to this project contact Kate Evans, USC Senior Development Manager.
Sport and Media

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