STRENGTHS

The Collaborative Research Network, Advancing Exercise and Sports Science is a $5.7 million project (2013-2017) for advancement of genetic and scientific research in the area of exercise and sports science. The project is led by Bond University in partnership with the University of Queensland, the University of Sydney and the Australian Institute of Sport.

The CRN is Bond University’s contribution to science and capacity building in sports, exercise and genetic science informed by the experience of established research partners and government institutes. Our aims are to:

» lead world-class research projects;
» attract resources and support of larger research-intensive organisations;
» boost Early Career Researchers;
» increase Higher Degree Research student participation;
» further leverage senior world-class researcher mentors and a world-class research infrastructure;
» establish legacy programs for researcher capacity building and career development; and
» provide leadership through publications.

CAPACITY BUILDING

The CRN is a team of lead researchers, Early Career Researchers, Higher Degree by Research students, and governing committees.

The Governance Committee is chaired by Bond University and representation from partner institutions, the University of Sydney, the University of Queensland and the Australian Institute of Sport. Science and research is regulated by a scientific steering committee led by highly esteemed Professors and lead researchers.

The Capacity building component is developed and facilitated by Professor Jeffrey Brand and supported through Bond University’s Research Services office.

Capacity Building Initiatives

» Culture: through communication, events, and Athena Swan/SAGE
» Leaders: through mentorship and the Principal Supervisor Accreditation Program (PSAP)
» Skills: through workshops, VITAE Research Development Framework, and the mentorship program
» Teams: PSAP, VITAE, conferences & symposiums
» Research Support: through projects and a research management system
RESEARCH EXCELLENCE

Bond University

» The injured athlete: genetic profiling of skeletal muscle atrophy with limb immobilisation
» Skeletal muscle overload, atrophy and regeneration in rats selectively bred for divergent responses to exercise training
» Sports Science & Exercise BioBank specimen repository
» Research Methods Library to capture diverse protocols
» GeneSMART study to identify genomic, transcriptomic and epigenomic predictors for adaptation to exercise training

University of Queensland

» Predicting the variability of response to high intensity interval training

University of Sydney

» Genetics, exercise, and nutrition interactions based at the University of Sydney
» Smart stress: comparing the acute and chronic stressor response and clinical correlates after physical or cognitive training in older adults with mild cognitive impairment
» How we eat and exercise: an exploratory study of how members of society engage with physical activity and how this interacts with habitual diet and physiological outcomes of energy expenditure
» Targeting metabolic and vascular health with high intensity exercise training in type 2 diabetes
» Assessing thermoregulatory deficits of trained individuals with a spinal cord injury exercising in the heat
» Physique traits, muscle performance, and health status of natural bodybuilders and powerlifters

Australian Institute of Sport

» The genetics of exercise-induced injuries involving tendon and bone
» Microbiome in highly trained athletes and response to dietary change
» Pathoanatomy of elite swimmer’s shoulder and symptom development: A longitudinal MRI study