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# CAPABILITY STATEMENT

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Institute for Health and Sport (iHeS)

## Acknowledgement of Country



Victoria University acknowledges, recognises and respects the Ancestors, Elders and families of the Boonwurrung, Waddawurrung and Wurundjeri of the Kulin, who are the Traditional Owners of University land in Victoria, and the Gadigal and Guring-gai of the Eora Nation who are the traditional owners of University land in Sydney.

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# Executive Director's Welcome

Welcome to the [Institute for Health and Sport \(iHeS\)](#) at Victoria University (VU). We focus on applied and translational research, with local and global impact.

VU is a young and dynamic university. We are ranked in the top 2% of Universities worldwide in the Times Higher Education 2021 World University Rankings and ranked 56 in the world's top universities aged under 50 years.

Research conducted in the **Institute for Health and Sport** is outstanding. Sport Science is ranked 9<sup>th</sup> globally in the 2020 [ARWU Rankings](#). The Australian Research Council Excellence Research Australia (ERA 2018) awarded VU the highest possible rating, "*well above world standard*", in four of our key research areas: Human Movement and Sport Science, Medical Physiology, Nursing, Public Health & Health Services; and "*above world standard*" for Biochemistry & Cell Biology. The Institute also contributed to areas rated "*at world standard*" including Nutrition and Dietetics, Specialist Studies in Education, Studies in Human Society, Sociology, Other Studies in Human Society, Psychology and Cognitive Sciences, and Cultural Studies.

The [Institute for Health and Sport \(iHeS\)](#) is one of two Flagship Research Institutes at VU. We take a transformative, future-focussed, "whole-of-University" approach, undertaking research into issues of global significance in Health and Sport. Two key drivers of our research purpose are VU's unifying commitment to Place-based Planetary Health ([Victoria University Research Strategy 2021-2025](#)) and our leadership in Sport ([Victoria University Sport Strategy, From Grassroots to Elite, 2019-2023](#)).

**iHeS** research is a major contributor to VU's whole of-university effort to address the challenge of Planetary Health. We engage in interdisciplinary research to solve complex problems and find sustainable solutions to challenges impacting the wellbeing of people, communities, country, and environment. In working at the intersection of health, sport and biomedical science, **iHeS** research addresses the majority of [United Nations Sustainable Development Goals](#), with our strongest contributions to Goal #3 Good Health and Wellbeing; #5 Gender Equality; #10 Reduced Inequalities; #11 Sustainable Cities & Communities; and #16 Peace, Justice and Strong Institutions.

The Institute has ~ 324 highly active researchers, comprising 136 staff and 188 ~129 EFTSL PhD students. We have some of the best equipped sport, biomechanics, exercise science and biochemistry labs in the world.

Research in the **Institute for Health and Sport** is undertaken through four multi-disciplinary research programs:

- ◆ Mechanisms and Interventions in Health and Disease
- ◆ Clinical and Community Health and Wellbeing
- ◆ Healthy and Inclusive Communities
- ◆ Sport Performance and Business



## Our People

The **Institute for Health and Sport** currently comprises 136 staff, around 188 (~129 EFTSL) Higher Degree by Research students, almost all of whom are PhD students, giving a total of 324 highly active researchers. In addition, iHeS includes 72 Adjunct appointees from across the world, as well as 13 Emeritus Professors.

### Institute for Health and Sport Leadership

**Executive Director:**

Professor Alex Parker

**Deputy Directors - Research Training:**

Professor John Price

Professor Alan Hayes

Professor Christopher Sonn

Professor Itamar Levinger

**Research Program Leaders:**

Mechanisms and Interventions in Health and Disease

Professor Nir Eynon

Clinical and Community Health and Wellbeing

Professor Clint Moloney

Healthy and Inclusive Communities

Professor Ramon Spaaij

Sport Performance and Business

Professor Sam Robertson

**Deputy Research Program Leaders:**

Mechanisms and Interventions in Health and Disease

Associate Professor Daniel Lai

Dr Julia Gilmartin - Thomas

Clinical and Community Health and Wellbeing

Associate Professor Michelle Ball

Healthy and Inclusive Communities

Dr Fiona McLachlan

Sport Performance and Business

Associate Professor Camilla Brockett

Dr Carl Woods

**iHeS Early Career Researcher Association Chair:**

Dr Michaela Pascoe

**iHeS HDR Committee Chairs:**

Andrew Palmer, Lee Klamert

**Pro-Vice Chancellor Research Partnerships:**

Professor Vasso Apostolopoulos

**Social Media Coordinator:**

Dr James Broatch

**Administrative Team:**

Executive Officer

Ms Amanda Rea

Senior Administrative Officer

Mrs Dominique Lanuto

Administrative Officer

Ms Emma Macintosh



iHeS Staff and HDR Students at the iHeS 2019 Photo day

# iHeS Vision and Mission

## Vision

Transforming Health and Sport for a better world

## Mission

Research excellence in health and sport that advances knowledge, transforms practice and informs policy, with local and global impact

## iHeS Value – Approach

The **Institute for Health and Sport** embraces five core value-approaches to its research practice:

1. Excellence in research (basic, applied, clinical, translational);
2. Personal and professional leadership, integrity and ethical approaches;
3. Respectful, collegiate, collaborative and courageous;
4. A nurturing, inclusive culture that supports creativity, innovation and diversity;
5. Engaged research with our partners to address local-to-global challenges.

## Strategic Priorities, Enabling Strategies and Deliverables for iHeS

This Strategic Plan focusses on three strategic priorities, each with enabling strategies and high-level deliverables. The three overarching Strategic Priorities identified for iHeS for 2019-2023 are listed below.

### Priority 1

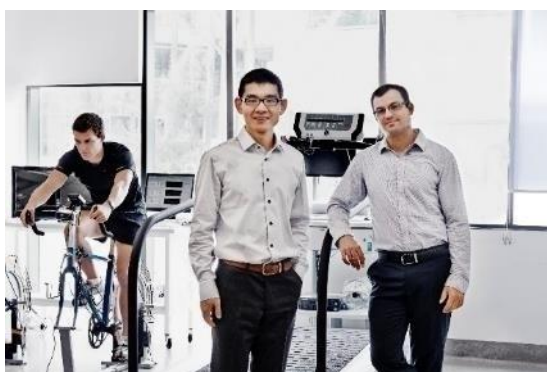
Create an Outstanding Research Ecosystem to Facilitate Research Excellence in iHeS

### Priority 2

Develop Major Partnership-Focussed Research as the Primary Vehicle for iHeS Research, Sustainability and Impact

### Priority 3

Create Major New Research and Funding Opportunities in Strategic Research Foci in Health and Sport



## Our Research Facilities

The **Institute for Health and Sport** is supported by world-class research infrastructure located on each of our Footscray Park, Sunshine Hospital, Werribee and Victoria University-Whitten Oval campuses in Melbourne's West.



The **\$68.5 million Sport, Exercise and Active Living building** is unparalleled nationally, internationally significant and is located at the Footscray Park Campus



Our clinical and biomedical research facility within the **\$52 million Western Centre for Health Research and Education** is located at Sunshine Hospital.



Our biomedical research facilities (basic and applied research and animal facility) at the recently renovated labs at Werribee Campus is part of a modern technology precinct, allowing our researchers to make major contributions to local and international scientific communities.



Our sport science research and knowledge exchange with the Western Bulldogs is located at the **Victoria University-Whitten Oval**, the home of the Western Bulldogs Football Club.





Sport science research is also embedded with Tennis Australia, at Melbourne Park, Melbourne.



Psychology clinic at MetroWest community space, Footscray.



iHeS research staff offices in Human Movement, Engineering, Psychology and Allied Health at Footscray Park campus.



Clinical exercise physiology research is undertaken in the **VU Clinical Exercise Rehabilitation Clinic (VUCER)** at Footscray Park campus.

# Future Developments

## The New Footscray Hospital



The Victorian Government is building a \$1.5 billion hospital immediately adjacent to Victoria University's Footscray Park campus, opening in 2025. Victoria University is currently planning to create iHeS research translation facilities in the New Footscray Hospital. This "Exercise and Lifestyle Medicine" research facility is envisaged to occupy ~3,000 M<sup>2</sup> of the planned overall Victoria University footprint of ~5,000 M<sup>2</sup>. This research facility will be a key feature of a Health, Sport and Active Living Hub at the Footscray Park campus, along with our existing iHeS sport, exercise and active living research facilities and the new health building.

## New VU Health Building

Victoria University plans to develop a major Health building to accommodate relocation of the College of Health and Biomedicine to the Footscray Park campus. It is envisaged that this new \$180 Million Health Building, 2025 will be connected by bridge to \$1.5 Billion New Footscray Hospital. This is envisaged to also include Institute for Health and Sport research facilities including at Translational Biomedicine Research Unit; an Animal Facility; a Clinical Gait and Posture laboratory; and an Inactivity- Bedrest facility.

## Higher Degree by Research Students

There are currently a broad range of exciting research opportunities for postgraduate students who wish to undertake a PhD or MSc research degree at the Institute for Health and Sport. These provide the opportunities to develop specialised research skills, gain systematic and critical understanding of a complex field of knowledge as well as the generation of new knowledge that makes a substantial contribution to a given discipline. The breadth of research disciplines, the world class research facilities and the expert supervision, support and mentorship available to students within the Institute for Health and Sport, provides a rewarding, yet challenging experience at the cutting edge of research.

Embedded within one of our research groups, students have access to multiple research facilities and resources across our multiple campuses. Moreover, opportunities for our postgraduate students to perform their studies collaboratively with our partner organisations within industry, government and community, furthers research engagement, impact and career advancement within any chosen discipline.

There are currently around 188 (~129 EFTSL) Higher Degree by Research students, almost all of whom are PhD students; these are spread across the rich diversity of research disciplines encompassed in iHeS. Current students are listed in each of the iHeS Research Groups.



iHeS HDR Students at the inaugural iHeS HDR Student Conference 2019

# Our Research Programs

The **Institute for Health and Sport** comprises four, integrated, multi-disciplinary research programs.



# Mechanisms and Interventions in Health and Disease

## Research Program Leaders

**Leader**

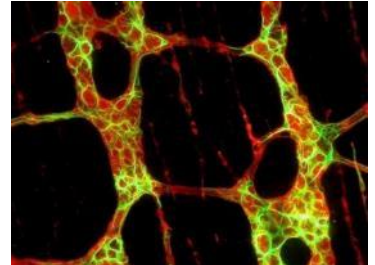
Professor Nir Eynon

**Deputy Leader**

Associate Professor Daniel Lai & Dr Julia Gilmartin-Thomas

## Main Purpose of Research Program

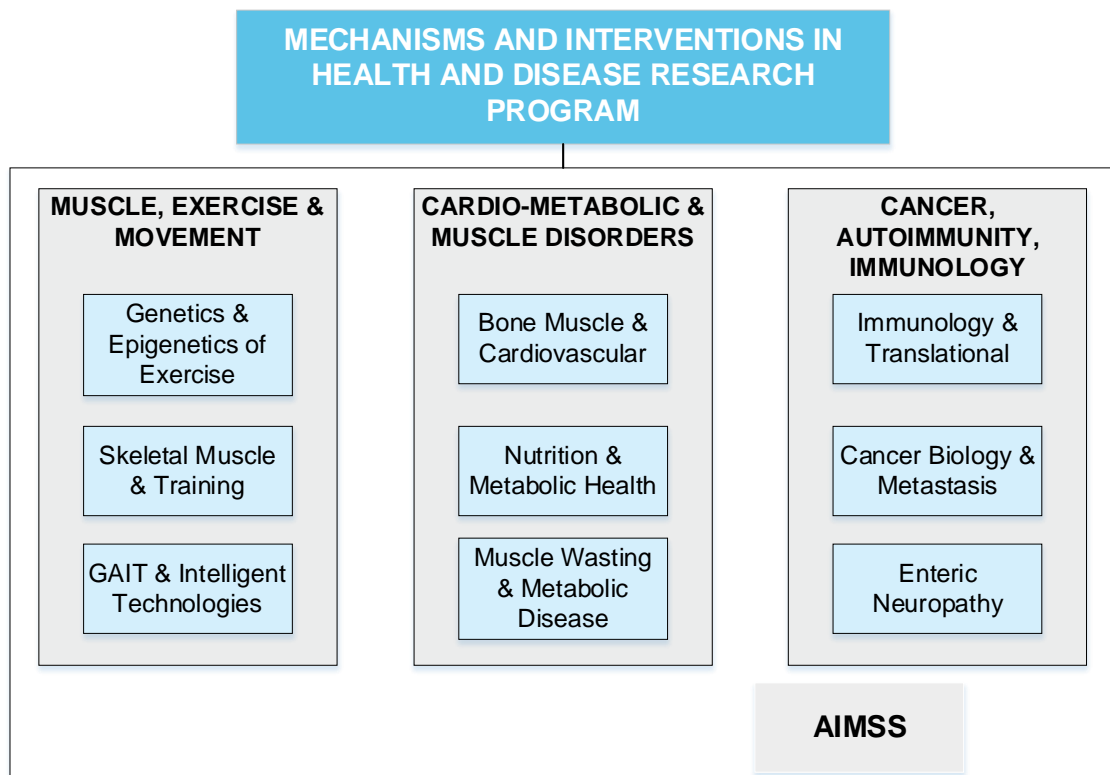
The program seeks to enhance the understanding of health and disease by researching the fundamental mechanisms of cells, biological systems and disease processes, and translating this knowledge into the development and implementation of interventions that maintain health, treat disease and inform policy and practice for enhanced health outcomes. Program members utilise fundamental basic, applied, clinical and translational research approaches.



The Program has three main research foci with nine research groups, comprising a total of more than 100 staff and higher degree research students within the program.



There is a strong complementarity of research undertaken in the Mechanisms & Interventions in Health & Disease Research Program with the Australian Institute for Musculoskeletal Science (AIMSS, see page 21, after the other iHeS Research Programs).



## Research Groups and Leaders

<b>Genetics &amp; Epigenetics of Exercise</b>	Professor Nir Eynon
<b>Skeletal Muscle &amp; Training</b>	Professor David Bishop
<b>GAIT &amp; Intelligent Technologies</b>	Professor Rezaul Begg
<b>Bone Muscle &amp; Cardiovascular</b>	Professor Itamar Levinger and Associate Professor Anthony Zulli
<b>Nutrition &amp; Metabolic Health</b>	Professor Michael Mathai
<b>Muscle Wasting &amp; Metabolic Disease</b>	Professor Alan Hayes
<b>Immunology &amp; Translational Research</b>	Professor Vasso Apostolopoulos
<b>Cancer Biology &amp; Metastasis</b>	Professor John Price
<b>Enteric Neuropathy</b>	Associate Professor Kulmira Nurgali

### Our Research Interests

The program incorporates groups with current key research areas of expertise that encompass:

- Biomechanics, exercise science
- Muscle health and disease, genetics and epigenetics of exercise
- Therapeutic mechanisms and manual therapy
- Metabolic and Cardiovascular health and disease
- Bone-muscle interaction
- Sarcopenia
- Nutrition in health and disease
- Cancer biology and metastasis
- Women's Health
- Molecular biology, structural biology (NMR, crystallography, molecular modelling)
- Immunology and regenerative medicine
- Drug design and development, immunotherapeutics and vaccine design

### Focus Areas

- Cancer (breast, colon, ovarian, prostate, lung, leukemia)
- Autoimmune diseases (multiple sclerosis, Type-1 diabetes, inflammatory bowel diseases)
- Musculoskeletal disorders (Muscular dystrophy, cachexia, sarcopenia, osteosarcopenia)
- Metabolic Disorders (Obesity, Type-2 diabetes, Insulin resistance, stroke)
- Cardiovascular disease
- Mental health
- Polycystic ovarian syndrome
- Enteric neuropathy
- Motor neuron disease
- Lower back pain
- Hunger management
- Ageing



# Partners, Funders and Collaborators

## Australian University Collaborations

Australian Catholic University, Melbourne  
Deakin University, Melbourne  
Flinders University, Adelaide  
Griffith University, Brisbane  
LaTrobe University, Melbourne  
Macquarie University, Sydney  
Monash University, Melbourne  
Queensland University of Technology, Brisbane  
RMIT University, Melbourne  
Swinburne University, Melbourne  
University of Adelaide, Adelaide  
University of Melbourne, Melbourne  
University of New South Wales, Sydney  
University of Sydney, Sydney  
University of Southern Queensland, Brisbane  
University of Tasmania, Hobart  
University of Western Sydney, Sydney

## International University Collaborations

Ahvaz Jundishapur University of Medical Sciences, Iran  
Aristotle University, Greece  
Guangzhou Sport University, China  
Harvard University, USA  
Indiana University, USA  
Plymouth University, UK  
Sathyabama University, India  
The Chinese University of Hong Kong, Hong Kong  
Tumor Immunity Medical Research Center, Seoul National University, South Korea  
University of Aalborg, Denmark  
University of Applied Sciences Kaiserslautern, Germany  
University Children's Hospital Basel, Switzerland  
University College Erasmus, Netherlands  
University of Copenhagen, Denmark  
University Insubria, Italy  
University of Ioannina, Greece  
University of Texas at El Paso, USA  
University of North Carolina, USA  
University of Patras, Greece  
Universidad Rey Juan Carlos, Spain  
University of Tübingen, Germany  
University of Windsor, Canada  
University of Wisconsin-Madison, USA

## Industry Partners, Funders and Collaborators

Athletics Australia, Australia  
Austin Hospital, Australia  
Australian Institute for Musculoskeletal Science (AIMSS), Australia  
Baker IDI, Australia  
Bosch Institute, Australia  
Cardiology Clinic Skopje, Macedonia  
Centre for Food Allergen Research, Australia  
Cobalt Niche Ltd, Australia  
Copenhagen University Hospital, Denmark  
Defence, Science and Technology (DST) Group, Australia  
Dorsa Vi Ltd, Australia  
ELDrug S.A, Greece  
Florey Neurosciences Institute, Australia  
Garvin Institute for Medical Research, Australia  
Gencor Pacific Ltd, Hong Kong  
Institute for Breathing and Sleep, Australia  
IPC Health, Germany  
Karolinska Institute, Sweden  
Macfarlane Burnet Institute for Medical Research, Australia  
Moffitt Cancer Centre, USA  
Murdoch Children's Research Institute, Australia  
NewDrug S.A, Greece  
NovoNordisk Foundation for Basic Metabolic Research, Denmark  
NTNU: Norwegian University of Science and Technology, Norway  
Pasteur Institute, Greece  
Peter MacCallum Cancer Centre, Australia  
Prolipsis Medical Centre, Greece  
Royal Melbourne Hospital, Australia  
Sanitarium Foods, Australia  
SimPharma Pty. Ltd, Australia  
SimPharma Pte. Ltd, Singapore  
Stop the Mets Charity, Australia  
St Vincent's Hospital, Australia  
St Vincent's Institute for Medical Research, Australia  
The Product Makers (TPM), Australia  
Vianex S.A, Greece  
Victorian Institute of Sport, Australia  
Western Health, Australia  
Xblades Ltd, Australia

# Healthy and Inclusive Communities

## Research Program Leaders

**Leader** Professor Ramon Spaaij

**Deputy Leader** Dr Fiona McLachlan

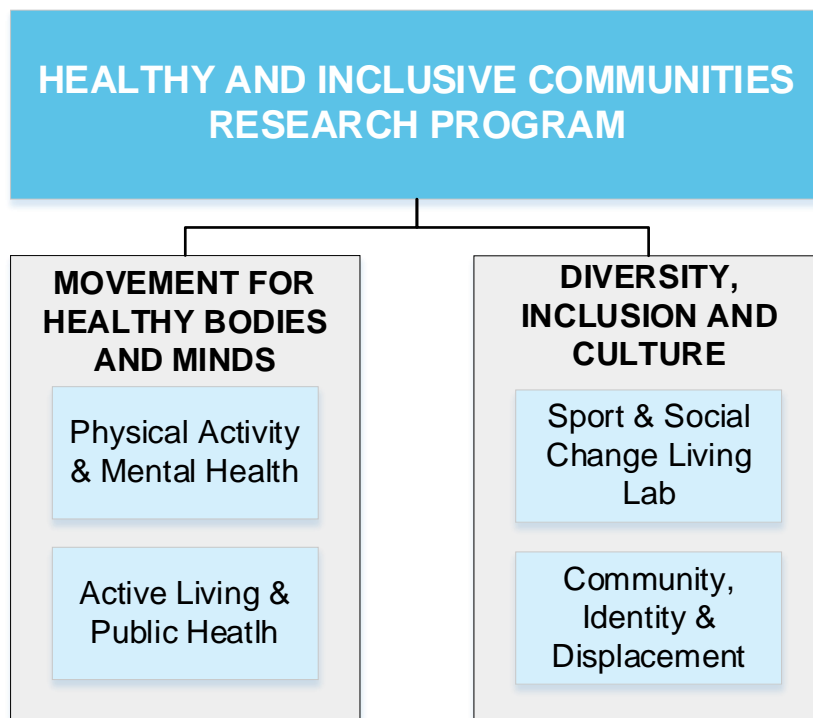
## Main Purpose of Research Program

The main aim of the research program is to contribute to healthy and resilient individuals and communities by enhancing social engagement and impacting behaviour, social, and policy changes.

Our research addresses the questions: “How, why, and to what extent do physical activity, sport, and culture shape individuals, communities, and society?”; and “How can physical activity, psychological, educational, health, sporting, and cultural interventions lead to positive changes for individuals, communities, and society?”



The research program includes four research groups in total with more than 60 staff and higher degree research students.





## Research Groups and Leaders

<b>Physical Activity &amp; Mental Health</b>	Professor Alex Parker
<b>Active Living &amp; Public Health</b>	Professor Zeljko Pedisic
<b>Sport &amp; Social Change Living Lab</b>	Professor Ramon Spaaij
<b>Community, Identity &amp; Displacement</b>	Professor Christopher Sonn

We address the major aim of our research program by engaging in a range of integrated and complementary projects across the research groups. We focus on interdisciplinary projects that are designed to:

- Measure, understand, and promote physical activity to optimise mental wellbeing, body satisfaction, and to prevent and treat mental illness using observational (descriptive and correlational) and experimental (interventions and clinical trials) studies and systematic reviews, with a focus on implementation and translation into practice;
- Increase the understanding of public health aspects of physical activity and sedentary behaviour and design, implement and evaluate interventions to promote active living;
- Examine equity, inclusion, and exclusion in sport, physical activity, and physical education contexts using a range of methods such as ethnography, interviews, surveys, focus groups, observations, and policy, media, and archival analysis;
- Conduct community based research and action into forms of symbolic and structural violence, its impacts, and individual and group responses to overcome and prevent it, using various approaches, including participatory and creative methodologies to partner with communities to address issues pertinent to them.



# Partners, Funders and Collaborators

## Australian University Collaborations

Australian Research Centre in Sex, Health and Society (ARCSHS) at La Trobe University  
Deakin University, Melbourne  
Edith Cowan University – School of Education, Perth  
Flinders University, Sport, Health, Activity, Performance and Exercise [SHAPE] Research Centre, Adelaide  
La Trobe University, APPEAR Lab, Melbourne  
Monash University – Faculty of Education, Melbourne  
Monash University, Melbourne  
Queensland University of Technology, School of Public Health and Social Work, Brisbane  
Swinburne University, Melbourne  
The School of Human Movement and Nutrition Sciences at University of Queensland, Brisbane  
University of Canberra, Canberra  
University of Melbourne – Centre for Youth Mental Health, Melbourne  
University of New South Wales, School of Psychology and School of Psychiatry, Sydney  
University of South Australia – Alliance for Research in Exercise Nutrition and Activity (ARENA), Sansom Institute, Adelaide  
University of South Australia, Mental Health and Suicide Prevention Research Group, Adelaide  
University of Southern Queensland - Physically Active Lifestyles Research Group (USQ PALs), Institute for Resilient Regions, Brisbane  
University of Sydney – Prevention Research Collaboration, Charles Perkins Centre, Sydney

## International University Collaborations

Auckland University of Technology Department – Physical Activity, Nutrition, and the Outdoors, Human Potential Centre, New Zealand  
Free University Brussels, Belgium  
Harvard TH Chan School of Public Health, Strategic Prevention Initiative for the Prevention of Eating Disorders [STRIPED], US  
London South Bank University, UK  
Palacky University Olomouc, Czechia  
Sanata Dharma University, Indonesia  
Universidad Catolica de Chile, Chile  
Universidad del Rosario, Colombia  
University of Amsterdam, The Netherlands  
University of California San Diego, Division of Global Health, US  
University of Nottingham, UK  
University of South Africa, South Africa  
University of the West of England, Centre for Appearance Research, UK  
University of Witwatersrand, South Africa  
University of Zagreb – Faculty of Kinesiology, Croatia

## Industry Partners, Funders and Collaborators

Australasian College of Community Psychologists, Australia  
Australian and New Zealand Academy for Eating Disorders, Australia  
Black Dog Institute, Australia  
Brimbank City Council, Australia  
Centre for Multicultural Youth, Australia  
Cochrane Work Review Group, Finnish Institute for Occupational Health, Finland  
CoHealth, Australia  
Global Observatory for Physical Activity (GoPA!), US  
Headspace, The National Youth Mental Health Foundation, Australia  
Orygen, The National Centre of Excellence in Youth Mental Health, Australia  
Outdoor Education Group, Australia  
Society for Community Research and Action, US  
Sport and Recreation Victoria, Australia  
The Butterfly Foundation, Australia  
Telethon Kids Institute, WA  
UKK Institute for Health Promotion Research, Finland  
VicHealth, Australia  
World Anti-Doping Association, Canada

# Clinical and Community Health and Wellbeing

## Research Program Leaders

**Leader** Professor Clint Moloney

**Deputy Leaders** Associate Professor Michelle Ball

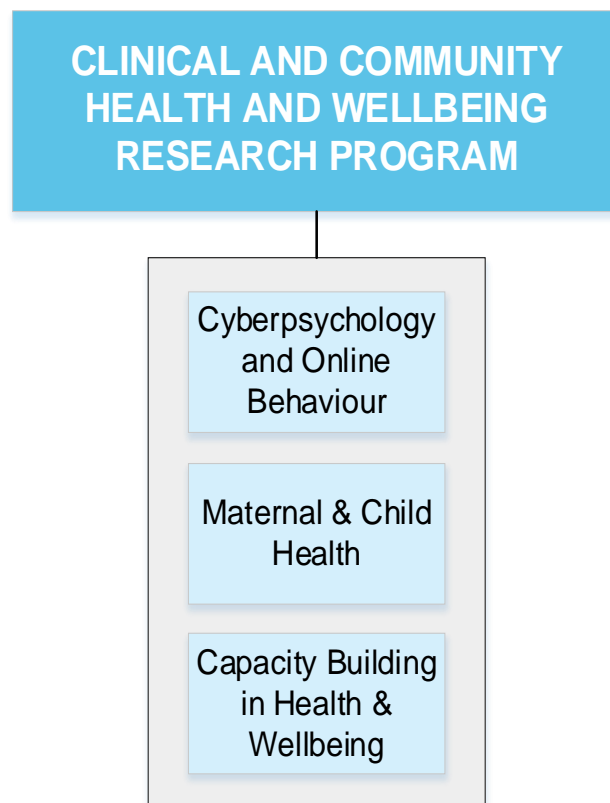
## Main Purpose of Research Program

The purpose of this program is to enhance and promote individual and community health and wellbeing. Our applied and translational research is situated in clinical, community and workplace settings and encompasses health, social equity and diversity.



## Our Research Expertise

The Research Program includes three research groups with more than 23 staff and higher degree research students. Our research focuses around Cyberpsychology, pregnancy risk, diabetes in pregnancy, acute and chronic conditions; identity; wellbeing; workforce development & capacity building and women's & men's health.



## Research Groups and Leaders

<b>Cyberpsychology and Online Behaviour</b>	Dr Vasileios Stavropoulos
<b>Maternal and Child Health</b>	Professor Clint Moloney
<b>Capacity Building in Health and Wellbeing</b>	Professor Jenny Sharples

## Partners, Funders and Collaborators

### Industry Partners, Funders and Collaborators

Behavioural Neurotherapy Clinic, Australia  
BioScreen, Australia  
Diabetes Australia  
Hope Street Youth and Family Services, Australia  
Mercy Health, Australia  
North Western Mental Health, Australia  
The Cyprus Youth Organisation, Cyprus  
The Hannover Medical School, Germany  
The International Gaming Research Unit, UK  
The Korean Advanced Institute of Science and Technology (KAIST), South Korea  
Turning Point, Australia  
Western Bulldogs Community Foundation, Australia  
Western Health, Australia  
Victoria Cooperative on Children's Services for Ethnic Groups (VICSEG), Australia

### International University Collaborators

ASTRA Team - University of Athens, Greece  
University of Utrecht, The Netherlands  
Universities of Palo Alto, USA



# Sport Performance and Business

## Research Program Leaders

**Leader** Professor Sam Robertson

**Deputy Leader** Associate Professor Camilla Brockett & Dr Carl Woods

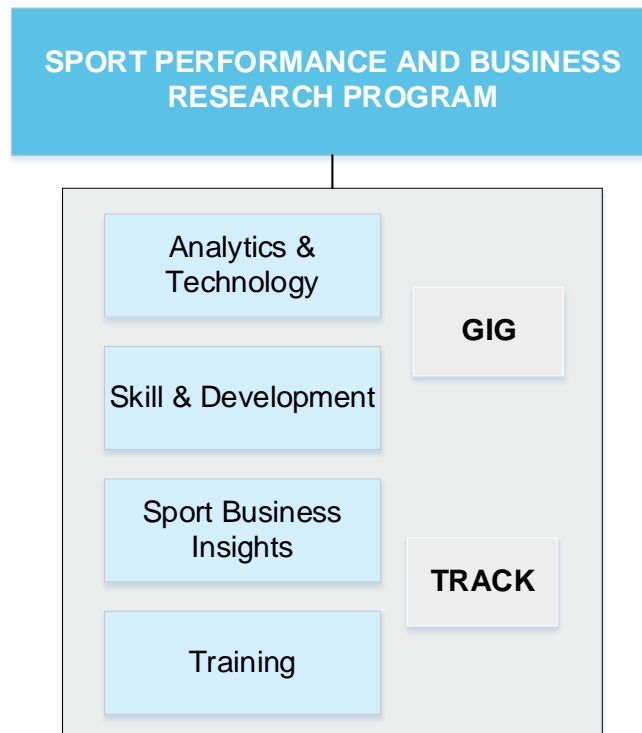
## Main Purpose of Research Program

To enhance the performance of sport in training, competition and the business environments. We focus on sport that inspires – specifically how we can advance and develop the performer, coach, umpire, practitioner, administrator & organisation. We have a global focus with respect to developing partners and a strong commitment to engage with government and industry to address big-picture, real-world problems.



## Our Research Expertise

The research program includes four research groups with more than 93 staff and higher degree research students, with focus in four key areas of expertise:



## Research Groups and Leaders

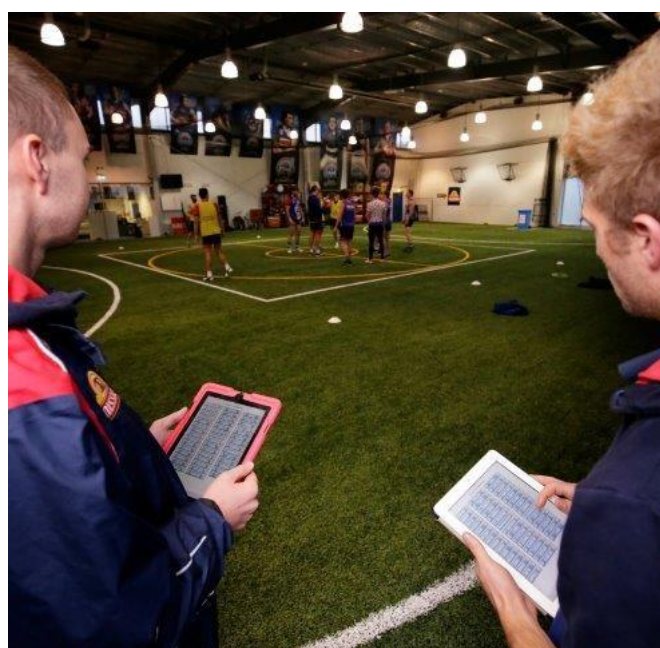
<b>Analytics &amp; Technology</b>	Associate Professor Kevin Ball and Dr Alice Sweeting
<b>Skill &amp; Development</b>	Associate Professor Sharna Spittle
<b>Sport Business Insights</b>	Professor Hans Westerbeek
<b>Training</b>	Professor Robert Aughey

The program also works closely with a recent VU initiative 'TRACK', which acts as the commercial and consulting arm for the program. In particular, Track focuses on translating new and existing intellectual property into commercialisable outcomes, through the development and offering of microcredentials, product development and joint ventures with the program's partners. It also consists of a bespoke consulting structure which facilitates rapid interaction with the sports industry.

One such example of this work is our partnership with Tennis Australia's Innovation division to establish the Game Insight Group (GIG). The team consists of expert data analysts, computer engineers, sports scientists and product innovators. The staff are supported by PhD students and collectively they have embarked on a journey to enhance players, coaches and fans engagement with tennis through science. Some of the key initiatives include the:

- development of new statistics to quantify a tennis player's DNA in order to tell a better tennis story;
- tracking of the emotion of players in a match through facial recognition technology;
- creation of the "Perfect Game" by customising the sport for each individual through optimisation of modified tennis formats and the application of virtual reality simulations.
- development of the "Tennis Lab" for developing expertise and building an evidence base on the emerging future and impacts of new technologies in tennis.

GIG has developed a set of cutting-edge products and services aimed at maximising player performance and mitigating injury risk. With support from leading racquet manufacturers and player analysis tools, such as Hawkeye, GIG offers services to players, coaches and broadcasters. GIG is currently applying the learnings of their work in tennis to other sports.



# Partners, Funders and Collaborators

## International University Collaborations

Auckland University of Technology, New Zealand  
Beijing Sports University, China  
Central University of Finance and Economics, China  
German Sports University, Cologne  
Guangzhou Sport University, China  
Loughborough University, England  
Shanghai Sport University, China  
South West University, China  
Tsukuba International Academy for Sport, Japan  
University of Tsukuba, Japan  
Western University, Canada  
York University, Canada



## Industry Partners, Funders and Collaborators

Australia-India Council, Australian Government, India  
Australian Football League (AFL), Australia  
Australian Institute for Musculoskeletal Science (AIMSS), Australia  
Australian Institute of Sport (AIS), Australia  
Australian Paralympic Committee, Australia  
Australian Sports Commission (ASC), Australia  
Cricket Australia  
Cricket Victoria  
Fédération Internationale de Football Association (FIFA), Switzerland  
Football Federation Victoria, Australia  
Fusion Sport, US  
Global Performance Testing, Australia  
Golf Australia  
Government of Kerala, India  
Gymnastics Australia  
Hockey Australia  
International Institute of Sports Management, India  
International Tennis Federation, UK  
Maribyrnong Sports Academy, Australia  
Ministry of Youth Affairs and Sports, Government of India  
National Basketball League, Australia  
Netball Victoria, Australia  
Procam International, India  
Punjab Institute of Sport, India  
Real Madrid, Spain  
San Antonio Spurs, Texas  
Sport Australia Hall of Fame, Australia  
Sports Authority of India  
Sports Performance Research Institute New Zealand (SPRINZ)  
Swimming Australia  
Tennis Australia  
VicHealth, Australia  
Victorian Institute of Sport, Australia  
Western Bulldogs Football Club, Australia  
Western Health, Australia  
Zone StartUps India

# Australian Institute for Musculoskeletal Sciences

Numerous researchers in the iHeS Mechanisms and Interventions in Health and Disease Research Program are also members of the [Australian Institute for Musculoskeletal Science \(AIMSS\)](#).

AIMSS is a medical research institute based on a collaborative partnership between Victoria University, Western Health and the University of Melbourne. Its positioning at Western Health's Sunshine Hospital enables translational research and close links with clinicians. AIMSS has world class dedicated clinical research facilities supported by a research management infrastructure which aids grant administration and clinical trial management. Co-located with the clinical facilities are basic sciences laboratories with state of the art research equipment, enabling a true two-way bench to bedside approach.



Musculoskeletal conditions have a substantial impact on health, productivity and healthcare costs. The impact of these conditions includes reduced independence and life participation, as well as reduced life expectancy and increased disability. In nearly four out of five cases, co-morbidity exists – that is, at least one other chronic condition such as cardiovascular disease (CVD) exists alongside the musculoskeletal disorder. These comorbidities allow multiple opportunities for collaboration throughout IHeS.

Victoria University as a key contributor to AIMSS assists to increase awareness of the prevalence of musculoskeletal conditions in Australia, to lobby for increased funding from state and federal governments for research and development purposes, and to position musculoskeletal research within the research agenda.

IHeS research staff and students lead programs and undertake research in basic science, as well as translational and clinical musculoskeletal research, offering leadership opportunities. AIMSS is based at the Western Centre for Health Research and Education (WCHRE) at Sunshine Hospital, where iHeS members foster collaboration with the other AIMSS partners, and other organisations, clinicians and funding bodies. iHeS directly supports AIMSS through maintenance of laboratory equipment in the WCHRE, as well as staff research fellowship time and HDR student management. iHeS also supports AIMSS by the employment of an accredited exercise physiologist within AIMSS, co-appointed within iHeS, who coordinates the gait and balance gym and falls & fractures clinic, providing education and research opportunities.

**Disease / Dysfunction Areas:** Sarcopenia, muscular dystrophy, osteosarcoma, stem cell therapy, osteosarcopenia, cancer & cachexia, clinical exercise science, musculoskeletal changes in chronic disease.

## AIMSS VU Program Leaders

Professor Alan Hayes, Sarcopenia: Biomedical and Translational  
Professor Itamar Levinger, Sarcopenia: Clinical  
Professor John Price, Cancer and the Musculoskeletal System  
Associate Professor Kulmira Nurgali, Stem Cells and Regenerative medicine

## AIMSS VU Project Leaders

Professor Andrew McAinch  
Dr Emma Rybalka  
Dr Sean Yan  
Dr Simon Taylor

## AIMSS VU Members in Training

Dr Alba Moreno-Asso	Ms Cassandra Smith	Mr Nicholas Giourmas
Dr Cara Timpani	Ms Danielle Debruin	Mr Nicholas Tripodi
Dr Alex Tacey	Mr Dean Campelj	Ms Tabitha Cree



# Higher Degree by Research Student Committee

The Institute for Health and Sport includes a Higher Degree by Research (HDR) Student Committee.

The main purpose of the HDR Student Committee is to support fellow HDR students by serving as a contact point for HDR students, identifying and communicating new research training opportunities, and mentoring other students.

A major goal of the HDR committee is to enhance the HDR student experience by promoting collegiality and collaboration among iHeS HDR students. They achieve this by organising and running the annual iHeS HDR student research conference, along with regular social events for HDR students.

Additionally, the HDR committee supports the iHeS Leadership Team, assisting with student engagement with research culture activities, bringing HDR issues to the attention of the Leadership Team, and assisting with surveys on student experiences. The Committee Chair is a member of the iHeS Leadership Team.

## HDR Committee Members

### Chairs

Andrew Palmer and Lee Klamert

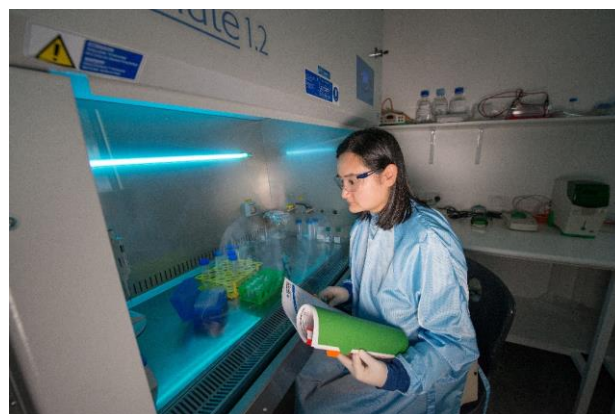
### Committee Members

Maryam Al Thaalibi

Mathew Bourke

Navabeh Zarekookandeh

Ryan Bagaric



# iHeS Early Career Researcher Association

The Institute for Health and Sport Early Career Researcher Association was formed in 2020. It represents iHeS early career research staff that are employed as postdoctoral fellows, a research officer, an equivalent position with an industry partner or a teaching and research staff member.

We currently have 36 staff in such roles, spread across the Institute Research Programs.

The aims of the iHeS Early Career Researcher Association are to:

- Upskill early career researchers to promote career development and develop future leaders
- Create new projects, form collaborations within our group and beyond to build opportunities, exchange knowledge and advance science
- Create a presence for early career researchers to communicate science
- Provide ongoing feedback to the iHeS Leadership Team regarding the needs of early career researchers for career progression
- Promote the mental health of early career researchers by increasing our social connection to each other and to the community, including creating positive interactions and social events.

## Association Members

<b>Chair</b>	Dr Michaela Pascoe
<b>Deputy Chair</b>	Dr Alessandra Ferri
<b>Secretary</b>	Dr Aurelie Pankowiak
<b>Treasurer</b>	Dr Jujiao Kuang
<b>Academic Promotions &amp; Grants</b>	Dr Sarah Voisin
<b>Career Opportunity</b>	Dr Alba Moreno
<b>Collaboration</b>	Dr Paul Larkin
<b>Science Communication</b>	Dr Matthew Lee & Dr Michaela Pascoe
<b>Social Events Coordinator</b>	Dr Alireza Esmaeili & Dr Nikeisha Caruana
<b>Social Media</b>	Dr James Broatch & Dr Sarah Dash
<b>Website</b>	Dr Alice Sweeting
<b>Mental Health and Wellbeing</b>	Dr Sarah Dash
<b>ECR Mentorship Program</b>	Dr Alba Moreno, Dr Alessandra Ferri, Dr Michaela Pascoe and Dr Julia-Gilmartin-Thomas
<b>Members</b>	Dr Alessandro Garofolini, Dr Alexander Tacey, Dr Amber Rowell, Dr Azadeh Kian, Dr Bartholomew Spencer, Dr Elliott Flowers, Dr Jeremy Alexander, Dr Jozo Grgic, Dr Kara Dadswell, Dr Linda Chiodo, Dr Macsue Jacques, Dr Mary Woessner, Dr Namitha Mohandas, Dr Narges Dargahi, Dr Olivia Cant, Dr Patrice Jones, Dr Rhiannon Patten, Dr Samuel McIntosh, Dr Sarah Fraser, Dr Tim Buszard.



# Global Research Partnerships and Collaborations

## Strategic Partnership Agreements – Australia

Australian Institute of Sport (AIS); Australian Sports Commission (ASC); Tennis Australia and our joint venture Game Insight Group (GIG); Maribyrnong Sports Academy; Western Bulldogs; Western Health; Australian Institute for Musculoskeletal Science (AIMSS).



## Strategic Partnership Agreements - International

Australian University of Technology; Loughborough University



## National and State Research Collaborations

Swimming Australia; Cricket Australia; Golf Australia; Hockey Australia; Australian Football League (AFL); Gymnastics Australia; Football Federation Victoria; Sport Australia Hall of Fame; Australian Paralympic Committee; CoHealth; CoHealth Arts Generator; Champion Data; Cricket Victoria; Global Performance Testing; National Basketball League; Netball Victoria; VicHealth; Victorian Institute of Sport



## National and State Research Collaborations - Continued



## International Partnerships and Collaborations

### China

Beijing Sports University; Shanghai Sport University; Guangzhou Sport University; Central University of Finance and Economics; South West University;



### New Zealand

Sports Performance Research Institute, New Zealand (SPRINZ), AUT



### India

Punjab Institute of Sport; Sports Authority of India; Government of Kerala; Zone StartUps India; Procam International, International Institute of Sports Management; Ministry of Youth Affairs and Sports, Government of India; Australia-India Council, Australian Government



## International Partnerships and Collaborations - Continued

### Japan

Tsukuba International Academy for Sport; University of Tsukuba



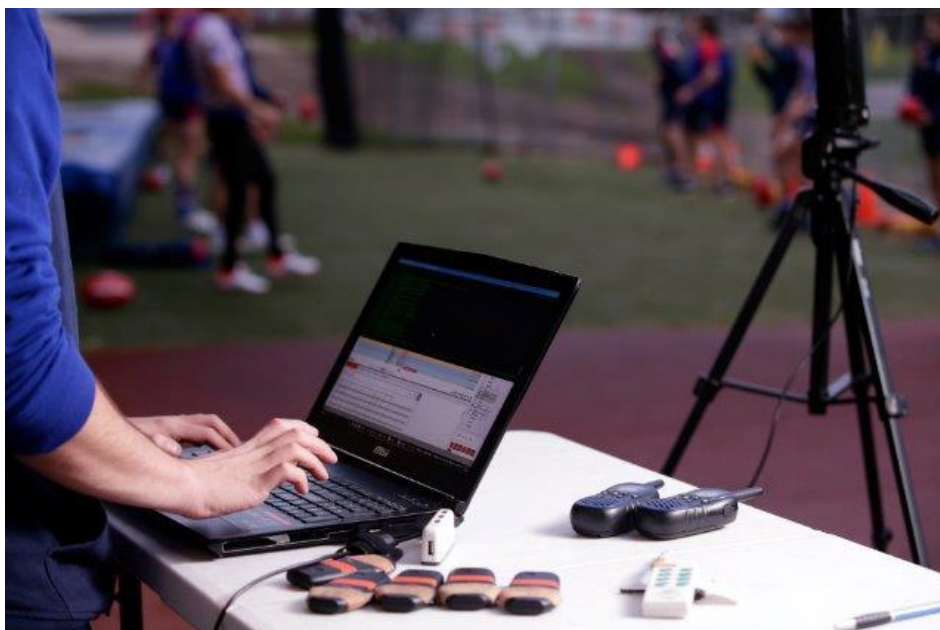
### Europe

German Sports University, Cologne; Real Madrid, Spain; Fédération Internationale de Football Association (FIFA), Switzerland; International Tennis Federation



### North America

Western University, Canada; San Antonio Spurs, Texas; Fusion Sport, US



# Research Groups in iHeS

## Mechanisms and Interventions in Health and Disease Research Groups

### Muscle, Exercise and Movement Research Foci

#### Genetics and Epigenetics of Exercise

**Leader: Professor Nir Eynon**

Along with diet, exercise is an essential component to tackle the increasing burden of chronic disease, and to increase the number of years spent in good health, yet people respond remarkably differently to similar exercise; some people respond well or very well to exercise and others do not. These adaptations depend on our genetic code, and also on epigenetic change (i.e., environmental stimuli influencing the expression of genes). The overarching aim of the group is to identify epigenetic and genomic biomarkers that predict fitness changes and the ageing process, in healthy and diseased population. To achieve this aim, the group is utilising various state-of-the-art genome-wide genetic and epigenetic sequencing methods.



#### Our Team

Professor Nir Eynon, Group Leader  
Dr Sarah Voisin  
Dr Namitha Mohandas  
Dr Patrice Jones  
Dr Macsue Jacques

#### HDR Students

Andrew Palmer  
Javier Alvarez-Romero  
Kirstein Seale  
Shanie Landen

#### Adjunct Staff

Dr Danielle Hiam  
Dr Oren Tirosh

## Skeletal Muscle and Training

### Leader: Professor David Bishop

We undertake research to better understand and to optimise skeletal muscle adaptations to exercise training to improve both health and performance. In particular, we are interested in adaptations related to improvements in mitochondrial characteristics and sodium/potassium ion regulation in response to both a single session of exercise and exercise training. While much of our research involves standard molecular biology techniques (e.g., real-time PCR, western blot, immunohistochemistry), we are increasingly using “omic” approaches, such as RNAseq and proteomics, to investigate the response of skeletal muscle to different exercise interventions. The goal of this research program is to provide new scientific knowledge that will influence the practices of those who prescribe exercise to prevent and treat disease and also to improve athletic performance.



#### Our Team

Professor David Bishop, Group Leader

Professor Michael McKenna

Associate Professor Aaron Peterson

Dr Andre Nelson

Dr Christos Stathis

Dr Steven O'Bryan

Dr Xu (Sean) Yan

#### Research Fellows

Dr James Broatch

Dr Jujiao Kuang

Dr Matthew Lee

Dr Nikeisha Caruana

#### HDR Students

Dale Taylor

Elouise Cheng

Jia Li

Navabeh Zarekookandeh

Shane O'Riordan

Shannon Fizer

#### Adjunct Staff

Professor Li Peng

Professor Wentao Lin

Dr Ben Perry

Dr Jon Bartlett

Dr Matthew Cooke

## Gait and Intelligent Technologies

### Leader: Professor Rezaul Begg

The Group's aim is to engage in state-of-the-art interdisciplinary research to advance our understanding of gait and balance and finding innovative solutions to both fundamental scientific problems and community and industry needs.

Key areas of application are: falls prevention in older adults and other populations with gait and postural impairments, such as people with stroke and diabetes; wearable sensors and computational prediction tools; real-time biofeedback technology and exercise interventions for gait rehabilitation; exoskeletons and other wearable devices for assisting locomotion in military and gait-impaired populations; and improving running mechanics in recreational and elite athletes.

A major strength of our Group's research is that it is multidisciplinary, with team members having backgrounds in biomechanics, exercise science, engineering, motor control, therapeutic mechanisms of manual therapy and lower back pain, health sciences, and computing.



#### Our Team

Professor Rezaul Begg, Group Leader  
Associate Professor Daniel Lai  
Associate Professor Pat McLaughlin  
Dr Andrew Antiohos  
Dr Simon Taylor

#### Adjunct Staff

Professor Pazit Levinger (NARI)  
Associate Professor Dan Billing  
(DST Group)  
Dr Suzanne Martin

#### Research Fellows

Dr Alessandro Garofolini  
Dr Azadeh Kian  
Dr Hanatsu Nagano  
Dr Lisa James  
Dr Tony Sparrow

#### HDR Students

Anna Joseph  
Amer Jaroshy  
Calum Downie

#### Research Assistants

Abdelrahman Zaroug  
Soheil Bajelan



# Cardio-Metabolic and Muscle Disorders

## Bone Muscle and Cardiovascular Research

**Leaders: Professor Itamar Levinger and Associate Professor Anthony Zulli**

The main aim of our group is to improve the clinical outcome, functional capacity and quality of life of people with musculoskeletal disorders and cardiovascular disease. The group is unique and built around key strategic direction, 'bench-to-bedside', and it includes three main components. (i) Basic science/mechanistic research to identify novel drug targets to fight musculoskeletal disorders and cardiovascular disease, (ii) Pre-clinical research to test new therapeutic avenues in in vivo models and (iii) Clinical research, to uncover the cross-talk between different organs and systems in humans and its implications for disease management, muscle function and metabolism and functional capacity in people with chronic conditions.

The group brings together a wide variety of disciplines including exercise science, physiology, medicine, cardiology and endocrinology.

This Group now also incorporates Professor Nigel Stepto's Women's Health group. This group studied the aetiology of chronic diseases that uniquely impact women, like Polycystic Ovarian Syndrome (PCOS). [Vale Nigel Stepto](#)



### Our Team

Professor Itamar Levinger, Group Leader  
Associate Professor Anthony Zulli, Group Leader  
Professor Michael McKenna  
Dr Rebecca Lane  
Dr Julia Gilmartin-Thomas

### Research Fellows

Dr Alba Moreno  
Dr Alessandra Ferri  
Dr Alexander Tacey  
Dr Mary Woessner  
Dr Rhiannon Patten  
Dr Tawar Qaradakhi

### Adjunct Staff

Professor Ray Rodgers  
Dr Lewan Parker

### HDR Students

Azadeh M-khani	Cassandra Smith	Kristen McSweeney
Benazir Ali	Catherine Giuliano	Laura Gadanec
Carlie Bauer	Jerusha Mather	Melpomeni Malamouli

## Nutrition and Metabolic Health

### Leader: Professor Michael Mathai

The research theme of our group is to study the effect of selected pharmaceuticals, micronutrients and dietary interventions on diseases and conditions including obesity, cardiovascular disease and diabetes. This research includes testing the safety and efficacy of these interventions in clinical trials and exploring the mechanisms through which the beneficial effects are mediated using a range of cell culture and animal experiments. We have successfully shown how dietary lipids such as omega-3 fatty acids, endocannabinoids and vitamin E tocotrienols alter and improve fat and glucose metabolism and muscle physiology. We have also shown how plant extracts (Caralluma Fimbriata, Coleus Forskolii, Beetroot, Queen Garnet plum juice) improve cardiovascular disease, dyslipidaemia and appetite satiety signalling, with key application to the treatment of hypertension and hunger management.



### Our Team

Professor Michael Mathai, Group Leader  
Professor Andrew McAinch  
Associate Professor Puspha Sinnayah  
Associate Professor Xiao Su  
Dr Xu (Sean) Yan

### HDR Students

Abilasha Jayathilake  
Collise Njume  
Deepti Nayyar  
Jacqueline Krassie  
Karen Hill  
Kristina Vingrys  
Monica Wellington  
Min Shi  
Sadia Khan  
Venkata Thunuguntla

### Adjunct Staff

Dr Deanne Skelly

## Muscle Wasting and Metabolic Diseases

### Leader: Professor Alan Hayes

Musculoskeletal conditions make up 23% of the non-fatal burden of disease in Australia. They have a substantial impact on health, productivity and healthcare costs. The impact of musculoskeletal conditions on health includes reduced independence and life participation, as well as increased disability and a threat to healthy ageing. Musculoskeletal conditions account for 20% of years lived with a disability. They can also be associated with increased mortality, with conditions contributing to about 1 in every 20 deaths. These figures do not include death and disability occurring due to muscle wasting conditions. Muscle wasting, be it from muscle diseases such as muscular dystrophy, secondary to almost all chronic diseases, or simply aging (sarcopenia is the loss of muscle size and strength as we age), is a strong predictor of death and disability. As such, strategies must be explored to maintain and build muscle mass and strength.

Our group has particular focus on muscular dystrophy, chemotherapy-induced wasting, inactivity, osteosarcopenia and sarcopenic obesity. The aims of this group are to investigate exercise training and/or nutrition manipulation, or pharmaceutical interventions, to increase muscle mass and improve muscle function.

We further aim to understand the molecular regulation of skeletal muscle wasting and growth and manipulate the basic balance of protein synthesis and degradation in skeletal muscles to understand how muscles respond to the interventions used to maximise impact and minimise side-effects. In addition, we have specific expertise in the investigation of mitochondrial function and its role in inflammation and oxidative damage, and how that influence's muscle wasting conditions. We conduct research to determine nitric oxide function and regulation of sodium/potassium ions in response to exercise training. Furthermore, we are interested in determining the role of exercise early in life to prevent obesity and development of diabetes. Results can be applied to multiple chronic/metabolic disease conditions and also lends itself to analysis of current data, development of diagnostic tools and subsequent population health impacts.



### Our Team

Professor Alan Hayes, Group Leader  
Professor Michael McKenna  
Associate Professor Aaron Petersen  
Dr Cara Timpani  
Dr Christos Stathis  
Dr Emma Rybalka

### Internal Collaborators

Professor Itamar Levinger  
Associate Professor Kulmira Nurgali  
Dr Alessandra Ferri  
Dr Steven O'Bryan

### Emeritus Staff

Professor Glenn McConell

### Adjunct Staff

Dr Craig Goodman  
Dr Kylie O'Brien  
Dr Nicole Stupka

### HDR Students

Bo Qi	Nicholas Giourmas	Dr Myrla Sales
Chris Lillico	Nurul Sidek	Ms Varsha Lal
Danielle Debruin	Owala (Shay) Chandrasiri	Ryan Bagaric
Dean Campelj	Stephanie Kourakis	Zina Aliboody
James Sorensen	Rebecca Houli	
Hannah Lalunio	John Cowell	
Methodija Kjertakov	Meagan McInnes	

# Cancer, Autoimmunity, Immunology

## Immunology and Translational Research

### Leader: Professor Vasso Apostolopoulos

The immune system plays a major role in health and disease. Understanding the cellular, molecular and functional changes to the immune system in chronic diseases, will lead to their prevention, treatment and management strategies. In addition, our group is involved in drug design, vaccine formulations and other interventions (i.e. phototherapy, exercise, natural products) for chronic diseases, in pre-clinical models, clinical research and translational focus. Although our primary core discipline is immunology we have a multi-disciplinary focus with disciplines including, exercise immunology, structural biology (crystallography, NMR, molecular modelling), medicinal chemistry, biochemistry, molecular biology, bioinformatics, cell biology, nutrition research, drug development, clinical research, translational research.



### Our Team

Professor Vasso Apostolopoulos, Group Leader

Professor Alex Parker

Professor Maximilian de Courten

Professor Michael McKenna

Associate Professor Anthony Zulli

Associate Professor Daniel Lai

Associate Professor Kathy Tangalakis

Associate Professor Kulmira Nurgali

Associate Professor Xiao Su

Dr Fotios Sidiroglou

Dr Jim Kiatos

Dr Joshua Johnson

Dr Maja Husanic

Dr Narges Dargahi

Dr Osaana Donkor

Dr Samy Sakal

Dr Sarah Fraser

Dr Tawar Qaradakhi

Dr Thomas Yeager

Mr Jack Feehan

Mr Majid Hassanzadeganroudsari

Ms Brigitte Pascal

Ms Nyanbol Kuol

### Emeritus/ Adjunct Staff

Professor Lily Stojanovska. Emeritus

Professor John Matsoukas

Professor Remco Polman

Mr Geoffrey Pietersz

### HDR Students

Amanda Habib

Christopher Apostolou

Elizabeth Donald

Jack Feehan

Jeannie Devereaux

Kamrun Nahar

Katherine Harkin

Kathleen Mikkelsen

Kristen McSweeney

Kristina Vingrys

Laura Kate Gadanec

Ms Hira Shakoor

Lauren Sahakian

Marco Papageorgou

Maria Adamopoulou

Md Kamal Hossain

Nicholas Tripodi

Mr Antonio Lagana

Ramya Sindhoora Juyothi

Rhiannon Filippone

Soong Ling

Supa Pudkasam

Vanessa Barriga

Ms Maria Adamopoulou

## Cancer Biology and Metastasis

### Leader: Professor John Price

Cancer is the leading cause disease burden in Australia. The primary cause of cancer death and mortality is due to the spread of the cancer to secondary sites/organs, a process termed, metastasis. Knowledge of the molecular mechanisms of metastasis is limited and current therapies are ineffective thus no cure for metastatic cancer exists. The overarching aims for the group are to define essential molecular mediators and mechanisms of metastasis, as well as identifying and/or designing drugs to block the actions of these molecules upon which metastatic cancer cells rely for their activity, growth and survival. We use combined expertise in cell and molecular biology, gene expression/bioinformatics analysis, peptide-based drug design, protein biochemistry, in vivo models of metastasis, advanced animal imaging approaches and biomarker discovery in cancer patient materials. Current pathways and areas that we are currently focussed upon are stress transcriptional pathways, autophagy and its inhibition and activation, design of 'first-in-class' HSF1 inhibitors, HSP90 inhibition and the FKBP family of molecules.



#### Our Team

Professor John Price, Group Leader

#### Adjunct Staff

Dr Craig Goodman

Dr Elizabeth Verghese

Dr Nitin Saksena

#### HDR Students

Asha Tonkin-Reeves

Cahn-Vin Nguyen

Charlett Giuliani

Jack Bolton

Joseph Polidano



## Enteric Neuropathy

### Leader: Associate Professor Kulmira Nurgali

The Group focuses on the development of new therapies for enteric neuropathy associated with inflammatory bowel disease, colorectal cancer, and side-effects of anti-cancer chemotherapy. In addition, mental health research associated with gut-brain axis is another focus of the group. The research philosophy is to translate scientific discoveries of basic science research (bench) into novel therapies for human disease (bedside).

Our research involves a range of topics including:

- Inflammatory bowel disease: novel molecular targets for development of effective therapies
- Inflammation-induced cancer: mechanisms and novel treatments
- Role of the nervous system in cancer development and progression
- Mesenchymal stem cell-based therapies for inflammatory bowel disease and colorectal cancer
- Inflammation-induced osteosarcopenia: mechanisms and novel treatments
- Enteric neuropathy as a target to alleviate gastrointestinal side-effects of chemotherapy
- Methamphetamine-induced depression: mechanisms and novel treatments



### Our Team

Associate Professor Kulmira Nurgali, Group Leader

Professor Vasso Apostolopoulos

Associate Professor Xiao Su

Dr Samy Sakal

Dr Sarah Fraser

### HDR Students

Abilasha Gayani Jayathilake

Amanda Habib

Elizabeth Donald

Hewausaramba Ranasinghe

Jack Feehan

Jeannie Devereaux

### Adjunct Staff

Dr Ahmed Rahman

Dr Ainsley Robinson

Dr Rachel McQuade

Dr Rhian Stavely



Petra Semenyé

Ramya Juyothi

Rhiannon Filippone

Shakya Dayaratne

Shilpa Sharma

# Healthy and Inclusive Communities

## Research Groups

### Physical Activity and Mental Health

#### Leader: Professor Alex Parker

The Physical Activity and Mental Health research group examines the role of physical activity and exercise in mental health promotion, prevention and treatment. We engage in projects that aim to measure, understand, and promote physical activity to optimise mental wellbeing.

#### Physical Activity and Mental Health Research

The Research Group combines multi-disciplinary expertise in behaviour change, psychology, education, evidence-based practice, health promotion, measurement, public health, epidemiology, and translation and implementation.

The aim is to maximise the potential of physical activity in achieving better clinical outcomes, improved functioning and wellbeing in those at risk of or experiencing mental health concerns.

Key research areas include:

- Effectiveness of exercise and physical activity interventions in promoting mental health and wellbeing and preventing mental illness
- Effectiveness of physical activity and exercise interventions in the prevention and treatment of secondary physical health problems associated with mental illness
- Effectiveness of physical activity and exercise interventions in the prevention and treatment of secondary mental health problems associated with poor physical health and/or chronic disease
- Effect of physical activity on the immune system, inflammatory biomarkers and immune cell functionality
- Prevalence, trends, correlates and determinants of physical activity among people with mental health problems and in mental health settings
- Assessing and addressing the barriers and facilitators to engaging in physical activity for mental health at individual, group/family, community, service provider, service delivery and government levels.





### Our Team

Professor Alex Parker, Group Leader

Professor Jenny Sharples

Professor Vasso Apostolopoulos

Professor Zeljko Pedisic

Associate Professor Jacqueline Williams

Associate Professor Melinda Craike

Associate Professor Michelle Ball

Associate Professor Zali Yager

Dr Aurelie Pankowiak

Dr Bert Oraison

Dr Kara Dadswell

Dr Lisa Hodge

Dr Mary Woessner

Dr Michaela Pascoe

Dr Romana Morda

Dr Sarah Dash

Dr Susan Kidd

Dr Warwick Hosking

### Adjunct Staff

Professor Elisabeth Wilson-Evered

Professor Kay Gibbons

Professor Tracy Taylor

Dr Enrique Garcia Bengoechea

Dr Nipun Shrestha

Dr Peter Baldwin

Dr Sian McLean

Dr Toni Hilland

### HDR Students

Emily Keohane

Joshua Marmara

Kerrin Ford

Lee Klamert

Matthew Bourke

Puneet Sansanwal



## Sport and Social Change Living Lab

### Leader: Professor Ramon Spaaij

The research group is primarily concerned with social justice, and asks critical questions regarding equity, inclusion and exclusion in sport, physical activity, and physical education contexts. The group seeks to understand how people's experiences of sport, physical activity and physical education are shaped and constrained by broader structures and cultural processes; and how to facilitate positive social change in and through sport, physical activity and physical education.

The group is grounded in social science and humanities – in particular, sociology and cultural studies, and researchers employ a range of methods such as ethnography, interviews, surveys, focus groups, observations, policy, media and archival analysis. The group has specific interest and expertise in migration, cultural diversity and social inclusion; race and racism; and gender and sexuality.

#### Our Team

Professor Ramón Spaaij, Group Leader  
Associate Professor Brent McDonald  
Dr Carla Luguetti  
Dr Fiona McLachlan  
Dr Michael Burke  
Dr Tom Forsell

#### HDR Students

Adrian Pacione  
Hyun Hong Wright  
Jack Hynes  
Jeffrey Bishara  
Jora Broerse  
Lisa Lymbery  
Monique Hanley  
Sophie Byrnes  
Suzanne Ryder

#### Adjunct Staff

Dr Gina Curro  
Dr Richard Baka  
Dr Rob Hess  
Dr Shane Gould



## Active Living and Public Health

### Leader: Professor Zeljko Pedisic

The research group is guided by: [i] the Social Ecological Model as a framework for investigating individual, social, environmental, and policy factors affecting physical activity and sedentary behaviour of communities and populations; [ii] the Activity Balance Model as a framework for epidemiological investigation of health outcomes of physical activity and sedentary behaviour considered as integrative parts of the time-use composition; and [iii] the Behaviour Change Wheel as a framework for characterising and designing physical activity and sedentary behaviour interventions. The group conducts research on:

- Prevalence, trends, correlates and determinants of physical activity and sedentary behaviour;
- Population-level outcomes of physical activity and sedentary behaviour;
- Effectiveness of interventions to increase physical activity and reduce sedentary behaviour;
- Measures and methods for assessment and population surveillance of physical activity and sedentary behaviour.

This work makes an important societal contribution by increasing the understanding of public health aspects of physical activity and sedentary behaviour and designing, implementing, and evaluating interventions to promote active living. The research has broad application for public policy, community facility development, and improving health and overall quality of life of populations.



### Our Team

Professor Zeljko Pedisic, Group Leader

Professor Alexandra Parker

Professor Rochelle Eime

Professor Warren Payne

Associate Professor Melinda Craike

Associate Professor Zali Yager

Dr Dan van der Westhuizen

Dr Jozo Grgic

### Adjunct Staff

Dr John Tower

Dr Nipun Shrestha

### HDR Students

Kathryn McDonald

## Community Identity Displacement

### Leader: Professor Christopher Sonn

This research group aims to conduct community-based collaborative research into various forms of social exclusion and displacement and its impacts upon individuals, groups and communities. Our research also documents resources and strategies that are vital to resilience, resistance, survival and wellbeing. We utilise innovative and culturally responsive research approaches including participatory action research, arts-based research, and qualitative and quantitative methods. We partner with communities and agencies to develop knowledge that addresses current social issues and to create a receptive and nurturing social environment that fosters sense of community, belonging, and social justice.

Our research includes several topics such as:

- Preventing homelessness through the community of schools and services model
- Examining neighbourhood houses as sites for creating inclusive communities and tackling racialisation
- Connecting Aboriginal women to Country through local healing practices.
- Social inclusion of diverse young people through sport and physical activity
- Colour between the lines: Creating solidarities across communities of difference through arts and activism
- VU Kick Start: Building resilience of first-in-family
- Building activist capacities of young people through issue-based campaigns
- Mapping young people's social justice concerns: An exploration of voice and action
- Evaluation of the gender equality through the arts grants program
- Young people's experiences of the Western Bulldogs Youth Leadership Project
- Women's leadership in traditionally male dominated areas of employment



#### Our Team

Professor Christopher Sonn, Group Leader  
Professor Ramon Spaaij  
Associate Professor Alison Baker  
Associate Professor Brent McDonald  
Associate Professor Gavin Ivey

#### HDR Students

Dr Amy Quayle  
Dr Kim Shearson  
Dr Laurie Chapin  
Dr Peter Gill  
Dr Romana Morda  
Kelly Lee Hickey  
Paola Balla  
Rama Agung Igusti  
Rebecca Lyons  
Roshani Jayawardana  
Samuel Keast

# Clinical and Community Health and Wellbeing Research Groups

## Cyberpsychology and Online Behaviour

### Leader: Dr Vasileios Stavropoulos

Our background is to address the rapidly developing interest in relation to the behavioural effects of the use of digital/online technologies, the Cyberpsychology and Online Behaviour Research (COBR) group was introduced under the Institute for Health and Sport (iHeS). A diverse team of researchers with interests in the effects of Tele-Health applications, excessive Internet Usage and virtual reality on human behaviour compose the group.

Our common aim is to provide evidence guided directions considering the potential debilitating and the debilitating effects interwoven with the use of digital and online applications. These effects tend to be massively accessible via a range of popular devices such as personal computers and smartphones.

In that line, we combine efforts with collaborators from the digital production industry and the Health/Mental Health field to transcribe empirical evidence into practice. Our vision involves fostering positive public health outcomes, whilst accommodating industry growth.

Our research focuses on individual/user, contextual (one's offline context) and online application features involved with the outcomes of:

- Cyber-health applications
- Provision of mental health treatment online
- Social Media Usage
- Internet Games
- Virtual Reality Effects
- Excessive Online Behaviours (e.g. gambling, gaming and use of online porn)
- The link between one's cyber-behaviour and physical health

### Our Team

Dr Vasileios Stavropoulos, Group Leader  
Associate Professor Gayelene Boardman  
Dr Peter Gill  
Dr Keis Ohtsuka

### HDR Students

Christopher Willie  
Daniel Zarate  
Deon Tullettprado  
Mohammad Latifi  
Taylor Brown  
Trent Footitt



## Maternal and Child Health

### Leader: Professor Clint Moloney

The group's main research focuses around Pregnancy risk and Diabetes in pregnancy.

The research team aims to promote the health and wellbeing of childbearing women, their children and families. In particular, the team explores women's pregnancy outcomes, risk in pregnancy, perinatal health and morbidity, older maternal age. There is an additional emphasis on sexual health and the social challenges that impact on pregnant women.

### Special Research Foci

- Diabetes in pregnancy
- Maternal-infant relationship
- Midwifery education

Research Studies have included:

- Getting it right for conception and pregnancy: Developing a web program for women with Type 2 diabetes (T2D).
- Developing a self-care intervention for Hispanic women with Gestational Diabetes in El Paso, Texas
- Development, testing and evaluation of an online education resource for breastfeeding women with Type 1 and Type 2 diabetes.
- Food for thought: Eating for your baby
- INWMML consumer engagement program for Type 2 diabetes.
- Developing an innovative educational program for high risk women with GDM 2
- Developing an innovative educational program for high risk women with GDM 1
- Midwives' experiences of the factors that facilitate normal birth among low risk women
- The 'Role of the midwife in Australia: third year midwifery students'
- The Limerick Lullaby project
- GDM among multi-ethnic groups in the Western Region of Melbourne
- Midwifery student's understanding of the role of the midwife
- Perinatal morbidity among Australian women aged 35 years and older
- Anxious waiting: soft markers and high risk pregnancy
- Having a baby In Australia: African women's experience



### Our Team

Professor Clint Moloney, Group Leader

Professor Mary Carolan-Olah

Associate Professor Gina Kruger

### HDR Students

Davina Taylor

Deepika Sharma

Dorota Frankowska

### Adjunct Staff

Professor Terence McCann

## Capacity Building in Health and Wellbeing

### Leader: Professor Jenny Sharples

The aim of the research group is to investigate capacity building at the individual, community, organisation and system levels. Our research foci includes: Acute and chronic conditions; brain behaviour and cognition; identity; wellbeing; workforce development; women's health and men's health. Research topics include:

- Examining interactions between enteric microbiota and symptom expression
- Resilience and recovery after aneurysmal subarachnoid haemorrhage
- Reconceptualising the Nature of Executive Functioning: introducing a hierarchical model of skill complexity
- Self-control, emotional eating and eating behaviour
- Microbiot-Gut-Brian interactions in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Neuropsychological symptoms, sex comparisons and treatment potential
- Mental health of musicians, actors and dancers: Culture and individual factors
- Self-efficacy as a mediator of health behaviour change in a gender-sensitised health intervention for men delivered through a professional sports club
- Correlates of quality of life and victimisation of women on the autism spectrum: Comparing the experiences of diagnosed, self-identifying and neurotypical women.
- “That Whole Macho Male Persona Thing”: The role of insults in young Australian male friendships.
- Paramedic mental health project
- An evaluation for Hope Street Youth and Family Services’ “Hope to Home” program
- Evaluation of the VIVSEG Refugee Student Engagement and Support program
- Venting anger in Cyberspace: Self-entitlement versus self-preservation in #roadrage tweets
- Influences on affiliate stigma of siblings: Self-esteem and perceived personal control over sibling's mental health issues
- Resilience and wellbeing in men: The role of social support
- Investigation into the relationship between compassion fatigue, compassion satisfaction, and self-care practices in Australian youth workers
- Seeking help from police for intimate partner violence: Applying a relationship phase framework to the exploration of victims' evolving needs
- Meeting the needs of young people with alcohol and other drug problems in regional Victoria: Towards the development of a service model



### Our Team

Professor Jenny Sharples, Group Leader	Dr Emra Suleyman	Dr Peter Gill
Professor Maximillian De Courten	Dr Jessica Scarfo	Dr Susan Kidd
Professor Karen Willis	Dr Keis Ohtsuka	Dr Wendy Rollins
Associate Professor Annie Venville	Dr Linda Chiodo	
Associate Professor Gavin Ivey	Dr Tina Kostecki	<b>HDR Students</b>
Associate Professor Gina Kruger	Dr Kim Shearson	Monika Naslund
Associate Professor Michelle Ball	Dr Lucy Lu	Nuray Okcum

### Emeritus/ Adjunct Staff

Professor Adrian Fisher, Emeritus	Professor Marty Grace, Emeritus	Dr Trish Burton
Professor Anthony Love, Emeritus	Professor Sharon Andrew	Dr Alexia Pavlis
Professor Carolyn Noble, Emeritus	Dr Carolyn Deans	Dr Anne Graham
Professor Dorothy Bruck, Emeritus	Dr Heather Gridley	

# Sport Performance and Business Research Groups

## Analytics and Technology

**Leaders: Associate Professor Kevin Ball and Dr Alice Sweeting**

The group focusses on the ‘development and application of innovative techniques in the acquisition and analysis of data, with respect to enhancing sporting performance’. It also works as a linking function between other iHeS Program and Groups in order to ensure best practice analysis techniques are implemented across the Institute’s research.



### Our Team

Associate Professor Kevin Ball, Group Leader

Dr Alice Sweeting, Group Co-Leader

Professor Rob Aughey

Professor Sam Robertson

Professor Will Hopkins

Associate Professor Fabio Serpiello

Dr Bart Spencer

Dr Carl Woods

Dr Emily Cust

Dr Jade Haycraft

Dr Jarred Pilgrim

Dr Jeremy Alexander

Dr Neil Collier

Dr Olivia Cant

Dr Sam McIntosh

Mr John Izzard

Mr Rhett Stephens

### HDR Students

Adrian Eassom

Ben Gogos

Ben Teune

Damian Kovacevic

Elissa Denton

Karl Trounson

Lizi Thomas

Nathan Broadbent

Peter Browne

Rob Delves

Ryan Hodder

Sam Muir

Scott Williams

Shaan Naughton

Victoria Brackley

Xavier Schelling Del Alcazar

### Adjunct Staff

Dr Elaine Tor

Dr Nader Chmait



## Skill and Development

### Leader: Associate Professor Sharna Spittle

The group examines factors that contribute to the development and proficiency of skilled movement. It aims to develop an understanding of how movements and skills are learnt and controlled thus providing insight that can be applied to optimise the performance of individuals within their chosen setting. This knowledge has practical application in a wide range of domains, which include physical education, sport, exercise and active living.

The Skill and Development group focusses on understanding how skills are learnt including methods of practice and other learning-related variables, processes that underlie motor performance, how movements are controlled and how this learning and control of motor skills vary based on experience and expertise. The aim is to better understand the relationship that exists between all the factors that play a role in skilled task execution. Key research areas include:

- Skill learning
- Perceptual-cognitive (decision making) skill development
- Skill practice and feedback optimisation
- Psycho-social agents of skill development
- Talent identification and development



### Our Team

Associate Professor Sharna Spittle, Group Leader

Associate Professor Janet Young

Associate Professor Michael Spittle

Dr Andrew Dawson

Dr Carl Woods

Dr Jade Haycraft

Dr Jarred Pilgrim

Dr Paul Larkin

Dr Tim Buszard

### HDR Students

Aden Kittel

Helen Hadiyan

Nathan Bonney

Nathan Broadbent

Peter Le Noury

Riki Steven Lindsay

Victoria Brackley

Yulia Fetisova

### Adjunct Staff

Professor Machar Reid

Associate Professor Daryl Marchant



## Sport Business Insights

### Leader: Professor Hans Westerbeek

Data driven decision making to ensure/guarantee the integrity of sport (statement of purpose).

Ultimately, our research: Should provide evidence that will support decision making in regard to policy development and policy implementation (statement of impact)

The overall aims of the Sport Business Insights Group are:

- To enhance sports organisations' capability in terms of the performance of individuals, business practices and delivery systems in sport organisations.
- To facilitate multi-disciplinary, cross-college collaborations to address global / big-picture, real-world problems facing sport business.
- To work closely with other data analytics driven research initiatives in VU (such as Sport and Recreation Spatial, GIG and Track) in order to build multidisciplinary data analytics research and consulting capacity and to be a knowledge generation and translational research group.
- To strengthen existing and develop new partnerships with government, community and industry to advance sport business intelligence.
- For the group's research to be a key 'pillar' for the VU Sport Flagship and make a significant contribution to delivering on the VU Sport Strategy.



### Our Team

Professor Hans Westerbeek, Group Leader

Professor Rochelle Eime

Professor Anne-Marie Hede

Professor Clare Hanlon

Professor John Zeleznikow

Professor Rob Aughey

Professor Sam Robertson

Associate Professor Camilla Brockett

Dr Aurelie Pankowiak

Dr Elliott Flowers

Dr Eric Schwarz

Mr Michael Linley

Dr Scott Bingley

### Adjunct Staff

Professor Dennis Hemphill

Professor Elisabeth Wilson-Evered

Professor Tracy Taylor

### HDR Students

Damian Taylor

Fei (Albert) Jie

Jessica Smart

Michael Linley

Renate Ulpiano

Dr Jack Harvey

Ms Melanie Charity

Dr Nader Chmait

## Training

### Leader: Professor Robert Aughey

This group is focussed on the design, application and monitoring of training programs to enhance athletic performance. We have extensive expertise in designing training to enhance performance of elite athletes across AFL, Rugby, Rugby League, Soccer, Cycling, Rowing and other sports. We collaborate closely internally with the analytics and technology and skill development groups to offer a one-stop research solution to problems relating to how the athletes train, interventions to enhance performance and effective monitoring to improve training and training outcomes.



#### Our Team

Professor Robert Aughey, Group Leader

Professor Andrew Stewart

Associate Professor Fabio Serpiello

Dr André Nelson

Dr George Elias

Dr James Zois

Dr James Broatch

Dr Amber Rowell

Dr Alireza Esmaeili

Mr Sam Howe

#### Adjunct Staff

Dr Grant Duthie

Dr Matthew Inness

#### HDR Students

Alex Bauer

Amy Wallis

Ana Holt

Damian Kovacevic

Jackie Dowell

Justin Ieronimo

Kristal Hammond

Metodija (Meto) Kjertakov

Raku Shimokawa

Robert Delves

Ryan Hodder

Shane O'Riordan

Terri Dentry



**FOR FURTHER INFORMATION,  
PLEASE CONTACT**

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**INSTITUTE FOR  
HEALTH & SPORT**