WELCOME

Welcome to the 9th World Congress on Science and Football.

It gives us great pleasure to welcome you to the 2019 World Congress on Science and Football hosted by Victoria University’s Institute for Health & Sport in Melbourne, Australia.

WCSF2019 will be held at the Melbourne Convention & Exhibition Centre from 4 - 7 June 2019 and will include four days of keynote presentations, parallel stream sessions, exhibits, tours, awards and workshops with a focus on innovation and the newest translational research and applied approaches within all codes of football.

The multidisciplinary congress will host over 200 presentations including ten keynote presenters, 25+ invited presentations, 160+ abstract presentations and over 40 poster presentations representing over 25 countries to discuss and promote the use of science in football and ensure the outcomes are transitioned to practitioners in all football codes.

At WCSF2019 our desire to be inclusive of and engage with all codes of football led to the major theme, which we hope you will see throughout the conference program of:

“Many Codes, Diverse Disciplines, One Football Family!”

We welcome you to the 2019 World Congress on Science and Football and hope you enjoy your stay in Melbourne, Australia while creating strong connections across our football family.

On behalf of the Scientific & Organising Committees

Dr Kevin Ball
Conference Co-Chair
Institute for Health & Sport
Victoria University, Melbourne Australia

Dr Fabio Serpiello
Conference Co-Chair
Institute for Health & Sport
Victoria University, Melbourne Australia

VICTORIA UNIVERSITY
INSTITUTE FOR HEALTH AND SPORT

Victoria University is delighted to be hosting the 9th World Congress on Science and Football.

The Institute for Health and Sport (IHES) is one of two Flagship Research Institutes at Victoria University. It addresses real-world problems of local, national and global relevance in both health and sport, across four multi-disciplinary research programs.

It was formed in 2018 by the combination of the world-leading Institute of Sport, Exercise and Active Living (ISEAL) and the Centre for Chronic Disease Prevention and Management.

The Institute has a wide scope, encompassing institutional research in exercise science, active living, chronic disease, biomedical sciences, technology, nursing, community health, psychology, public health, sport performance, sport in society, sport participation and sport business.

www.vu.edu.au/research/institute-for-health-sport

COMMITTEE MEMBERS

SCIENTIFIC COMMITTEE MEMBERS

Dr Kevin Ball
Conference Co-Chair
Dr Fabio Serpiello
Conference Co-Chair
Prof Rob Aughey
Dr Jason Berry
Dr Neal Bezodis
Dr Carlo Castagna
Dr Andrew Dawson
Dr Grant Duthie
Prof Rochelle Eime
Prof Terry Farrow
Prof Damian Farrow
Prof Warren Gregson
A/Prof Rob Hess
A/Prof Matthew Klugman
Prof Peter Krustup
Dr Martin Littlewood
Prof Tim Meyer
Prof Kevin Norton
Prof Hiroyuki Nunome
Prof Donna O’Connor
A/Prof Sam Robertson
Prof Jaime Sampaio
Dr Neal Smith
Dr Alice Sweeting
Prof Hans Westerbeek

LOCAL ORGANISING COMMITTEE MEMBERS

VICTORIA UNIVERSITY - Institute for Health & Sport

Dr Kevin Ball
Senior Lecturer
(Conference Co-Chair)

Dr Fabio Serpiello
Senior Lecturer, Sport Physiology/ Course Chair,
Master of Sports Science (Football Performance)
(Conference Co-Chair)

Michael Clayton
Manager – Industry, Community and Sport Engagement
(LOC Chair)

Steve Gauci
Senior Administrative Officer

CONFERENCE ORGANISER

Smart Connection Consultancy  |  ABN: 48 600 404 359
PO Box 5247, South Melbourne VIC 3205
Email events@smartconnection.net.au  |  Phone 03 9421 0133

P2 / 2019 EVENT PROGRAM
WORLD CONGRESS ON SCIENCE & FOOTBALL
PLENARY KEYNOTE SPEAKERS

Prof Rob Aughey
Victoria University

Mr John Didulica
Professional Footballers
Australia

Prof Caroline Finch
Edith Cowan University

Prof Geir Jordet
Norwegian School of Sport Sciences

Mr Tony Keane
Australian Football League

Prof Kevin Norton
University of South Australia

Mr David Rath
Australian Football League

Prof Jaime Sampaio
University of Trás-os-Montes and Alto Douro, Portugal

Prof Hans Westerbeek
Victoria University

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Track
INVITED SPEAKERS

Dr Kevin Ball
Victoria University
TECHNICAL CHARACTERISTICS OF KICKING IN MALE AND FEMALE AUSTRALIAN FOOTBALL

Mr Dean Benton
Performance Consultant
HIGH PERFORMANCE IN RUGBY LEAGUE AND RUGBY UNION

Dr Jason Barry
IMG Academy, Florida
YOUTH ACADEMY PANEL

Dr Neil Bezodis
Swansea University
FACTORS ASSOCIATED WITH SUCCESSFUL GOAL KICKING IN RUGBY

Mr Nick Dalton-Barron
Leeds Beckett University
INSIGHTS AND CHALLENGES FROM THE IMPLEMENTATION OF A LEAGUE-WIDE GPS PROJECT IN RUGBY LEAGUE

Dr Grant Duthie
Australian Catholic University
HIGH PERFORMANCE IN RUGBY LEAGUE AND RUGBY UNION

Prof Rochelle Eime
Sport and Recreation Spatial
FOOTBALL PARTICIPATION TRENDS INCLUDING RETENTION AND ATTRITION RATES

Prof António Figueiredo
University of Coimbra, Portugal
YOUTH SOCCER: PERFORMANCE OR POTENTIAL?

Dr Vincent Gouttebarge
University of Amsterdam
MENTAL HEALTH IN PROFESSIONAL FOOTBALL - OCCURRENCE, STRESSORS AND SUPPORT SERVICES IN AUSTRALIA

Prof Warren Gregson
Head of Sports Science at Qatar FA and Aspire Academy
YOUTH ACADEMY PANEL

Prof Mike Huggins
Leeds Beckett University
SOCCER AND MATCH-FIXING: SOCIOCULTURAL AND HISTORICAL PERSPECTIVES

Prof Ben Jones
University of Cumbria
YOUTH ACADEMY PANEL

Assoc Prof Sophia Nimphius
Edith Cowan University
THE CAPACITY TO SKILL DEVELOPMENT PROCESS FOR SIDESTEPPING: PREPARATION FOR “WORST-CASE” SCENARIOS

Dr Juan Carlos Mazza
Rosario Central Soccer Club, Argentina
SOCCER: AEROBIC- OR ANAEROBIC-PREDOMINANT SPORT? MYTHS, FALLACIES AND SCIENTIFIC EVIDENCE RELATED TO AEROBIC ENDURANCE RELEVANCE, TESTING AND TRAINING METHODOLOGY IN PERFORMANCE

Prof Thomas Kaminski
University of Delaware
CONCUSSIONS AND REPETITIVE HEAD IMPACTS IN FOOTBALL (SOCCER) - WHAT’S ALL THE FUSS AND SHOULD I CARE?

Prof Koen Lemmink
University of Groningen
THE GRONINGEN APPROACH

Dr Martin Littlewood
Liverpool John Moores University
PERFORMANCE COSTS: THE PERSON

Assoc Prof Sam Robertson
Victoria University-Western Bulldogs Head of Research & Innovation
FUTURE OF ANALYTICS IN SOCCER

Prof Peter Krstrup
University of Southern Denmark
FOOTBALL IS MEDICINE: THE USE OF RECREATIONAL FOOTBALL IN THE PREVENTION AND TREATMENT OF LIFESTYLE DISEASES

Dr Prof Donna O’Connor
University of Sydney
COACHING PROCESSES

Mr Alex Sakadjian
Melbourne Football Club (AFL)
INDUSTRY PRESENTATION

Prof Del Wang
Shandong Sport University
TOP GUN WITH A WHISTLE - TRANSLATING DEFENCE RESEARCH TO OFFICATING AUSTRALIAN FOOTBALL

Dr Tim Neville
Australian Football League
FACILITATING THE CAREER GROWTH OF YOUNG SPORTS PROFESSIONALS

Mr Glenn Stewart
West Coast Eagles Football Club (AFL)
DIFFERENT KICKING STYLES IN SOCCER

Dr Neal Smith
University of Chichester, UK
DIFFERENT KICKING STYLES IN SOCCER

Prof Del Wang
Shandong Sport University
TOP GUN WITH A WHISTLE - TRANSLATING DEFENCE RESEARCH TO OFFICATING AUSTRALIAN FOOTBALL

Mr Jay Ellis
Lecturer at Australian College of Physical Education
FACILITATING THE CAREER GROWTH OF YOUNG SPORTS PROFESSIONALS
CONGRESS KEY THEMES & OUTLINE

The 9th World Congress on Science and Football will promote the use of science in football and ensure the outcomes are transitioning to practitioners in all football codes. Four days of keynote presentations, parallel stream sessions and applied workshops with over 200+ presenters will focus on key football themes:

PLAYER HEALTH AND WELLBEING
A 360-degree view of the football player – inside and outside of the arena. This theme will include a specific focus on the challenges concussion injuries present to football codes.

PLAYER TRAINING AND MONITORING
Cutting-edge approaches to enhance and control performance in football codes.

REFEREERING
Technological aspects; development of on-field officials, physically and psychologically.

THE SOCIO-CULTURAL WORLDS OF FOOTBALL
Historical, cultural, sociological, and anthropological approaches to football codes and the heritage of these codes.

THE FUTURE OF FOOTBALL
Strategically aligning sport business and science.

CONGRESS OUTLINE

TUESDAY 4 JUNE | WEDNESDAY 5 JUNE | THURSDAY 6 JUNE | FRIDAY 7 JUNE
12:30 Registrations Open | 7:30 Registrations Open | 7:30 Registrations Open | 9:00-12:30 Optional workshops
13:30 Congress Opening Keynotes | 8:00-18:30 Conference Program | 8:00-17:00 Conference Program | 
17:00 Tom Reilly Memorial Lecture | 18:00-22:30 Congress Dinner & Awards | 18:00 Welcome Reception | 
18:00 Welcome Reception | | |
20:00 DAY ONE CLOSES | | |

2019 PROGRAM

TUESDAY 4TH JUNE

12:30 REGISTRATIONS OPEN
13:30 WELCOME BY CHAIR - Dr Kevin Ball and Dr Fabio Serpiello Clarendon Auditorium
14:00 OFFICIAL ADDRESS - Prof Michael J. McKenna, Executive Director, Institute for Health and Sport, Victoria University
14:10 OPENING KEYNOTE PRESENTATION - Prof Caroline Finch, Edith Cowan University MAXIMISING INJURY PREVENTION SUCCESS IN FOOTBALL
15:00 INVITED PRESENTATION - Assoc Prof Sam Robertson FUTURE OF ANALYTICS IN FOOTBALL
15:30 AFTERNOON TEA
16:00 INDUSTRY PRESENTATION - Prof Ben Jones and Nick Dalton-Barron INSIGHTS AND CHALLENGES FROM THE IMPLEMENTATION OF A LEAGUE-WIDE GPS PROJECT IN RUGBY LEAGUE
17:00 TOM REILLY MEMORIAL LECTURE - Prof Kevin Norton, University of South Australia
18:00 WELCOME RECEPTION
20:00 DAY ONE CLOSES
Wednesday, 5th June

7:30 Registrations Open

8:00 Keynote Presentation - Prof Guir Jodet, Norwegian School of Sport Sciences

8:50 Industry Presentation - Jay Ellis, Lecture at Australian College of Physical Education
Facilitating the Career Growth of Young Sports Professionals

9:20 Transfer to Stream Sessions

9:30 Invited Presentation
Dr. Martin Littlewood
Performance Costs: The Person

9:45 Invited Presentation
Andreas Holmstrom - Pressure Level in German Junior Bundesliga Soccer

9:50 Invited Presentation
Anthony Lackt - Relationships Between Weekly Heart Rate Variability and Subjective Assessments to Predict Match Performance in Elite Rugby League Athletes

10:00 Invited Presentation
Buddley Thorley - Peak Match Intensities of Elite Football Players in Australia: Effect of Playing Position and Half

10:15 Invited Presentation
Dale Rodd - Giving “Live” GPS Feedback to Athletes: Does it Alter Locomotor Performance During Small-Sided Games?

10:30 Invited Presentation
Dr. Juan Carlos Mazzu
Soccer: Aerobic- or Anaerobic-Predominant Sport? Myths, Fallacies, and Scientific Evidence Related to Aerobic Endurance, Testing and Training Methodology in Performance

10:45 Morning Tea

11:30 Invited Presentation
Anthony Sorel - A New Functional Test to Assess the Risk of Hamstring Injuries in Professional Soccer Players

11:45 Invited Presentation
Benjamin Montgolf - Injury Risk Reduction Strategies in Female Football: A Systematic Review and Meta-Analysis

12:00 Invited Presentation
Brooks Patterson - Worse Functional Performance 1-Year After ACL Reconstruction Increases Risk of Worsening Osteoarthritis Features on MRI

12:15 Invited Presentation
Daniel Hoffman - Injury Burden Weighted by Player Value Within a Season Influences Team Performance in Elite Australian Football

12:30 Invited Presentation
Deborah Aroye - Beliefs of Professional Footballers: The Importance of Establishing Positive Unions for Success in Professional Football

12:45 Invited Presentation
Gedde Iba Pardeshi - Effects of a Neuromuscular Program in Young Female Soccer Players

12:50 Keynote Presentation
Dean Read - Developing Expert Performance in Sport: Integrating Working Memory Training into Football Coaching

13:00 Lunch Break

14:00 Player Health & Wellbeing

14:30 Player Training & Monitoring

15:00 Elite Academies

15:30 Coaching

16:00 Player Training & Monitoring

16:30 Keynote Presentation
Ian Hazzlewood - Participant Motivation of Male Master’s Rugby Players Participating in Golden Oldies World Rugby Festival

16:45 Keynote Presentation
Lara Masson - The Development and Testing of Growth-Focused Sports Coaching (G-FOC): An Online Coach Education Program

17:00 Keynote Presentation
Jonathan Weekley - The Effect of Alternative Repeated Sprint Performance on Perceptual, Internal, and Peak Power Output in Rugby Players

17:15 Keynote Presentation
Jason Teo - Autoregulation in Resistance Training: A Comparison of Subjective Versus Objective Methods

17:30 Keynote Presentation
Jessica Farley - Health and Performance-Related Physical Fitness Qualities of Elite Senior and Junior Female Australian Football Players

17:45 Keynote Presentation
Edwardo Abade - Are Vertical and Horizontal Force-Vector Exercises Equally Important to Physical Performance of Football Players?

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## Keynote Presentation

**David Rath**, Australian Football League

**The Work Behind AFL Rule Changes and the New AFL Coaching Framework**

### Player Health & Wellbeing

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>15:00</td>
<td>Idia Be Smendoub - A Descriptive Analysis of the Inciting Events Prior to Acute AFL Muscle Injuries in Professional Football Players</td>
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<tr>
<td>15:15</td>
<td>Joel Fuller - The Functional Movement Screen and Injury Risk in Junior Australian Football Players: The Importance of Replication Studies</td>
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<tr>
<td>15:30</td>
<td>Tim Massaad - Comparison of Player-Dependent and Player-Independent Speed Thresholds to Model Injury Risk in Soccer.</td>
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<tr>
<td>15:45</td>
<td>Rui Marcelino - Does Size Matter in the Aerial Duels into the Box? Insights from 2017/2018 Season Matches from 8 Different Competitions</td>
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<tr>
<td>16:00</td>
<td>Matthew Whidon - The Prevalence and Impact of Modified Training in Elite Academy Football.</td>
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<tr>
<td>16:15</td>
<td>Ned Smith - Experienced Players Utilize Different Kicks and Kick Leg Kinematic Strategies to Generate Foot Velocity in Soccer Instep Kicking.</td>
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### Transfer to Stream Sessions

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<th>Time</th>
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<tr>
<td>14:50</td>
<td>Brad Keller - Talent Identification in Australian Youth Soccer Players</td>
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<tr>
<td>15:00</td>
<td>Alex Streeb - Change in Soccer Players' Direct Shot Performance with a Rolling Ball at Different Velocities</td>
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<tr>
<td>15:30</td>
<td>Nikkii Rannemets - Practical Utility of Maturity Offset/Ratio Prediction Equations in Elite Level Youth Soccer Players</td>
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### Elite Academies

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<th>Time</th>
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<tbody>
<tr>
<td>15:00</td>
<td>Prof Warren Gregson, Dr Fabio Serpiello (Chair)</td>
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<td>15:15</td>
<td>Dr Lisa Stickland, Dr Craig Green, Dr Kimberly Jay, Dr Jason berry, Dr Antonio Figueiredo</td>
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### Invited Presentation

**Prof Donna O’Connor**

**Coaching Processes**

### Analytics & Statistics

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<th>Time</th>
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<tr>
<td>15:00</td>
<td>Alixanne Kulagi - Match Performance Variables that Differentiated European and African Teams at the FIFA World Cup 2018</td>
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<tr>
<td>15:15</td>
<td>Ben Descarné - Variation in the Peak Match Intensities of Elite Australian Association Football</td>
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### Young Academy Panel

**Prof Warren Gregson, Dr Fabio Serpiello (Chair)**

**Nikki Rannemets, Prof Charles Gregson, Dr Jason Berry, Dr Antonio Figueiredo**

### Afternoon Tea

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<th>Time</th>
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<tbody>
<tr>
<td>16:30</td>
<td>Maurice Fernkym - Exercise-Based Strategies to Prevent Muscle Injury in Professional Footballers</td>
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<tr>
<td>16:45</td>
<td>Rui Marcelino - Does Size Matter in the Aerial Duels into the Box? Insights from 2017/2018 Season Matches from 8 Different Competitions</td>
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### Invited Presentation

**Dr Tim Neville**

**AFL Top Gun with a Whistle: Translating Defense Research to Officiating Australian Football**

### Analytics & Statistics

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<tr>
<td>16:45</td>
<td>James Barkoll - Analysing Perturbations and Their Implications to the Coaching Program in Rugby Sevens</td>
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### Day Two Closes

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>18:00</td>
<td>Yusuke Tsubota - Longitudinal Changes in Stress Among Collegiate Soccer Players During a Competitive Season: From Perspectives of Psychological and Biological Stress Indicators</td>
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<tr>
<td>18:15</td>
<td>Del Wang - Mental Toughness as an Important Factor in Elite Youth Female Soccer Players</td>
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### Keynote Presentation

**Dr Tim Neville**

**AFL Top Gun with a Whistle: Translating Defense Research to Officiating Australian Football**

### Analytics & Statistics

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<tr>
<td>18:00</td>
<td>Keita Matsumura - The Relationship Between the Origin of a Shot and the Goalkeeper's Actual Motion in Response to the Shot</td>
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<tr>
<td>18:15</td>
<td>Andrew Hunter - A Predictive Model of Soccer Penalty Success</td>
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### Thursday, 6th June

#### 7:30 Registrations Open

#### 8:00

**Keynote Panel Discussion - Integrity in Football**
- **Clarendon Auditorium**
- **Prof Hans Westerbeek**, Professor of International Sports Business, Victoria University (Chair)
- **Prof Rob Aghey**, Victoria University
- **Mr John Didulica**, Chief Executive, Professional Footballers Australia
- **Mr Tony Keane**, Head of Integrity and Security, Australian Football League

#### 8:50 Industry Presentation - Alex Sakadijani - Melbourne Football Club (AFL)

#### 9:20 Transfer to Stream Sessions

#### 9:30

**Player Health & Wellbeing**
- **Clarendon Room D**
- **Andrea Bruder** - Eccentric Knee Flexor Weakness Following Anterior Cruciate Ligament Reconstruction in Elite Female Australian Football Players

**Player Training & Monitoring**
- **Clarendon Auditorium**

**Elite Academies**
- **Clarendon Room G**
- **Dianne Legarde** - The Influence of Player Integration, Perceptions and Experiences in Women’s Football

**Socio-Cultural**
- **Clarendon Room E**
- **Genevieve Cabagno** - Anti-Social and Pro-Social Behaviors in Soccer and Rugby: The Over-Riding Roles of Coaches and Sport Values

#### 9:45

**Anthony Sorel** - A Kinematic Analysis of the Impact of Visual Stress Synchrony on a Professional Soccer Player: A Case Study

**High Performance - Can We Wring the Rag Any Further?**
- **Clarendon Room F**
- **Brian Stewart** - West Coast Eagles Football Club (AFL)

**Geert Savelberg** - Talent Identification in Elite Youth Football: Comparison Between Coach Ratings and Test Results of Selected and Non-Selected Players

**Hamstrungs to Quadriceps Ratio**
- **Giuseppe Coratella** - Effects of Enhanced Eccentric Training on Change of Elite Soccer Players Selected to Play at Elite, Sub-Elite and Non-Elite Level

#### 10:00

**Samuel Chalmers** - Does the Functional Movement Screen (FMS) Have an Association with Increased Injury Risk in Sporting Populations? A Systematic Review and Meta-Analysis

**Howard Greenhill** - Skeletal Maturation and Physical Performance of Male Youth Soccer Players Selected to Play at Elite, Sub-Elite and Non-Elite Level

**Kristall Rachel** - HOT Ambiance or Chaos in the Standstadium? Active Fans Toward Ultra Groups in German Football

#### 10:15

**Kerry Peck** - Muscle Strength Characteristics of the Hamstrings and Quadriceps in High-Level Youth Football Players

**Andrew Hahnken** - Transfer of Specific Tactical Behavior to Pitch and Training Configuration in Small-Sided Games

**John Brannan** - The Influence of neu-Banded Competition on Player Performance During Tid: A Pilot Study

#### 10:30

**Niko Rammer** - A Machine Learning Approach to Assess Injury Risk in Elite Level Youth Soccer Players

**Benjamin Mentoply** - Understanding the Physical Characteristics of Elite Female AFL Players

**Kenny Pondik** - Player, Coach, and Parent Perspectives of a Player Evaluation System Within an Elite Youth Soccer Academy

**Invited Presentation**
- **Paul Larkin** - The Pathway to the Socceroos: The Key Environmental, Socio-Cultural and Football Architectural Factors in the Development of Elite Footballers

#### 10:45

**Samuel Chalmers** - Multi-Year Injury Surveillance of Elite Junior Australian Football: New Injuries on the Rise

**Nathan Bennie** - Small-Sided Games in Australian Football – The Creation, Implementation and Application to Sport

**Loel Kuznesi** - What are the Perceptual-Cognitive and Decision Making Skill Characteristics of Elite Australian Rules Football Players?

#### 11:00 Morning Tea

#### 11:30

**Player Training & Monitoring**
- **Clarendon Room D**
- **Deegan Gamble** - Positional and Temporal Differences in High Intensity Running and Playerload in Elite Male Gaelic Footballers

**High Performance in Rugby League and Rugby Union**
- **Dean Benton** - Australian Rugby
- **Dr Grant Duthie** - Japan Rugby

**Marcus Hannah** - Fat Free Mass and Resting Metabolic Rate in Elite Youth Football Players: Between Age Group Comparisons from a Premier League Academy

**Pradil Phadke** - Bigger, Stronger, Faster: The Differences in Physical Qualities Between Player Development Group and England Academy Players in Youth Rugby Union

**Invited Presentation**
- **Prof Peter Krustup** - Football is Medicine? The Use of Recreational Football in the Prevention and Treatment of Lifestyle Diseases

**Rhye Nibraud** - From Entry to Elite: The Relative Age Effect in the Australian Football Talent Pathway

**May-Britt Skoradal** - Sex-Dependent Evaluation of Football as Medicine for 55-70-Year-Olds with Prediabetes

**Tony Ward** - Atracting Female Fans - Football Games: Evidence from Australian Codes

#### 11:45

**Hugo Kerheren** - Impact of a Previous Surgery on Vertical Jump and Lower Muscle Strength on Elite Soccer Players

**Danny Naor** - Self-Reported Wellness Profiles of International Footballers During Major International Tournaments

**Giuseppe Garvarte** - Effects of Enhanced Eccentric Training on Change of Direction, Muscle Architecture and Hamstrings-to-Quadriceps Ratio

**Michelle La** - The Longest Journey - 21 Years of Travel and Performance in Super Rugby

**Stella York** - Sleep Quality Following Long-Haul Flight in Elite Academy Football Players - A CASE STUDY

**Stefan Vervoets** - Team Sports Scheduling of Training and Recovery During the In-Season Weekly Micro-Cycle

**Rebecca Cross** - Team Training Load and Injury: Methodological Issues and Improved Strategies

**Dianna Lepore** - The Influence of Football Training on Movement and Performance in Elite Youth Football Players? A Mathematical Model

#### 12:00

**Invited Presentation**
- **Fieke Rongen** - ‘The Neither/Nor Proposition: A Mixed-Methods Evaluation of the Impact of a Youth Soccer Academy

**Lael Kassem** - What are the Perceptual-Cognitive and Decision Making Skill Characteristics of Elite Australian Rules Football Players?

**Marcus Hannon** - Fat Free Mass and Resting Metabolic Rate in Elite Youth Football Players: Between Age Group Comparisons from a Premier League Academy

**Kevin James** - Player, Coach, and Parent Perspectives of a Player Evaluation System Within an Elite Youth Soccer Academy

**Paul Larkin** - The Pathway to the Socceroos: The Key Environmental, Socio-Cultural and Football Architectural Factors in the Development of Elite Footballers

**Tony Ward** - Atracting Female Fans - Football Games: Evidence from Australian Codes

#### 12:15

**Invited Presentation**
- **Prof Mike Huggins** - Soccer and Matchfixing: Socio-Cultural and Historical Perspectives


**Sam Elliott** - Parents, Girls’ and Australian Football: A Grounded Theory for Attracting and Retaining Participation

**Tony Ward** - Atracting Female Fans - Football Games: Evidence from Australian Codes

#### 12:30

**Invited Presentation**
- **Prof Rachel Eime** - Football Participation Trends Including Retention and Attrition Rates

**Paul Larkin** - The Pathway to the Socceroos: The Key Environmental, Socio-Cultural and Football Architectural Factors in the Development of Elite Footballers

**Tony Ward** - Atracting Female Fans - Football Games: Evidence from Australian Codes


**Sam Elliott** - Parents, Girls’ and Australian Football: A Grounded Theory for Attracting and Retaining Participation

**Tony Ward** - Atracting Female Fans - Football Games: Evidence from Australian Codes
THURSDAY 6TH JUNE CONTINUED

13:00 LUNCH

14:00 KEYNOTE PRESENTATION - Prof Jaime Sampaio  Clarendon Auditorium
PERFORMANCE ANALYSIS IN FOOTBALL

14:50 TRANSFER TO STREAM SESSIONS

15:00 PLAYER HEALTH & WELLBEING  Clarendon Auditorium
Dean Norris - INFLUENCE OF PHYSICAL QUALITIES UPON SEASONAL TRENDS IN DYNAMIC AND ISOMETRIC MEASURES OF NEUROMUSCULAR FATIGUE

15:15 INVITED PRESENTATION  De Vincent Gouttebarge
MENTAL HEALTH IN PROFESSIONAL FOOTBALL - OCCURRENCE, STRESSORS AND SUPPORT SERVICES IN AUSTRALIA

15:30 Keynote Presentation - Prof Jaime Sampaio
Floris Goes - MOVING THE OPPONENT: ANALYSIS OF THE DISRUPTIVENESS OF SUCCESSFUL VS. NON-SUCCESSFUL PASSING SEQUENCES IN PROFESSIONAL DUTCH FOOTBALL MATCHES BASED ON POSITION TRACKING DATA

15:45 INVITED PRESENTATION  Prof Thomas Kaminski
Patrick Dillon - DETERMINATION OF LOCOMOTOR QUALITIES IN ELITE AUSTRALIAN FOOTBALL: A PRACTICAL APPROACH

16:00 Session 1A: High Performance Panel Discussion - What can we learn from other codes?
Dean Benten - Australian Rugby
Di Grant Dufresne - Japan Rugby
Glenn Stewart - West Coast Eagles Football Club (AFL)

16:15 Session 1B: Invited Presentation  Prof Vincent Gouttebarge
Tahleya Eggers - IMPACT OF MICROCYCLE DURATION RELATIONSHIPS: TRAINING AND MATCH DAY APPLICATIONS

16:30 Session 1C: Invited Presentation  Prof Thomas Kaminski
Harry Matz - TRAINING LOAD AND SUBMAXIMAL HEART RATE RESPONSES THROUGHOUT A COMPETITIVE PERIOD IN A TOP LEAGUE TEAM

16:45 Session 1D: Keynote Presentation - Prof Jaime Sampaio
Robbie Wison - DRIBBLING SPEED ALONG CURVED PATHS PREDICTS ATTACKING AND DEFENDING PERFORMANCE IN MATCH-REALISTIC ONE VS. ONE SOCCER GAMES

17:00 CONFERENCE SESSIONS CLOSE

18:30 CONGRESS DINNER - MARVEL STADIUM
CONGRESS DINNER

WCSF2019 is delighted to be hosting the Congress dinner at Melbourne’s Marvel Stadium on Thursday 6th June from 6.30pm – 10.30pm. Marvel Stadium is the most versatile, flexible and technologically advanced stadium in Australia.

www.marvelstadium.com.au

Marvel Stadium is approximately a 10 minute walk from the Melbourne Convention & Exhibition Centre or just two tram stops along Clarendon Street/ Spencer Street.

AWARDS
The 9th World Congress on Science & Football is pleased to offer a series of awards to recognise achievements in research and innovation in the use of science in football. These awards will be presented at the Marvel Stadium Congress Dinner, with categories including:

- Student Investigator;
- Early Career Research;
- Best Paper by Football Code;
- and People’s Choice Survey.

DINNER SPONSOR
At Track, we know about and learn every day about human movement. We use state of the art technology, and the ingenious brains of our world-leading experts to come up with innovative ways to track humans. Humans who perform at the ultimate elite performance end of movement - in elite sport or in the military - all the way to the other end of the movement spectrum where humans struggle to be physically active due to (chronic) disease or lack of opportunities.

We use our advancing knowledge about human movement to support individuals and collaborate with organisations that are in the business of improving the physical and mental capacity of humans.

MELBOURNE
Melbourne is globally recognised as a safe, welcoming and exciting city which is passionate about its sport. Not only has it invested in its tourism infrastructure to allow easy access around the city, it also has a plethora of events and festivals to be proud of.

The Melbourne Convention & Exhibition Centre is located on the banks of the iconic Yarra River in South Wharf and is just a short walk away from the city centre. The WCSF 2019 conference, networking events, workshops and tours will showcase the best of Melbourne. We hope you enjoy your stay in Melbourne.

www.mcec.com.au
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39 sports
104 research papers

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PLATINUM SPONSOR

CATAPULT
Catapult exists to build and improve the performance of athletes and teams. Delivering precision engineering at the intersection of sports science and analytics, Catapult products are designed to optimise performance, reduce injury risk, and support return to play. Providing advanced wearable, athlete management and video analysis technologies, Catapult works alongside the world’s leading sports organisations. Today, Catapult has over 350 staff based across 24 locations worldwide, working with over 2,500 elite teams.

GOLD SPONSORS

HUDL
Hudl is the market leader in video based analysis solutions to sports teams around the world. The established product portfolio includes powerful offline and online software which allows users to conduct impactful and customisable video based analysis, whilst effectively distributing and sharing this content within their organisation. Founded in 2006, Hudl currently consists of 1,300+ employees operating out of 20 countries. With more than 150,000 active teams, over 4.3 million unique users and over 20,000 Sportscode users, Hudl has become the preferred video analysis solution for teams, from the smallest youth organisations to professional teams in North America, South America, Europe, Asia, Africa and Oceania.

EDGE10
The EDGE10 Group is perfecting human performance by providing advanced analytical solutions to the world’s top sporting organisations, empowering them with actionable insights, leading to efficient, high quality decision making. As market leader, the EDGE10 Group works with 750+ teams around the world and has league wide deals across some of the most prestigious leagues in the world including the MLB, NHL, CFL, WTA and ATP.

SILVER SPONSORS

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Professor John Cronin AUT & SPRINZ: “In terms of high-velocity movement-specific strength and metabolic training, I haven’t come across anything better”
Distributed by Kinetic Sport Science: http://kineticsportscience.com/

IMEASUREU
World leading inertial sensor & software platform to measure, manage & maximize human movement. Backed by Vicon the gold standard in motion capture.

EXHIBITORS

HUMAN KINETICS
Human Kinetics is a leading information provider in the area of physical activity, health and fitness. Human Kinetics strives to increase the knowledge, enhance the performance, and improve the health and fitness of people around the world by developing and delivering authoritative educational resources about physical activity, health and individual sports.

FUSION SPORT
Fusion Sport optimise performance through our industry leading human performance platform and training technologies Smartspeed and Smartjump. Our Human Performance Platform Smartbase is used globally by Olympic teams, professional sports, performing arts and the military to centralise athlete data, analyse performance and assist elite organisations to make better informed decisions for individuals and teams.

NOVOFIT
NovoFit is a dynamic company that combines over forty-five years of industry expertise, delivering state of the art fitness facilities throughout Australia, New Zealand and Southern Asia. NovoFit has a single mission: to be Australia’s trusted provider of global fitness brands for the commercial, wellness, performance and functional training markets.

EVENT HOST

VICTORIA UNIVERSITY: GLOBAL LEADERS IN SPORT RESEARCH AND EDUCATION
The Institute for Health and Sport (IHES) is one of two flagship research institutes at Victoria University. Formed in 2018, as the combination of the world-leading Institute of Sport, Exercise and Active Living (ISEAL) and the Centre for Chronic Disease Prevention and Management, IHES translates practical research solutions to impact real-world problems of local, national and global significance.

Our four research programs include:
- Clinical and Community Health and Wellbeing
- Health and Inclusive Communities – Sport, Physical Activity and Culture
- Mechanisms and Interventions in Health and Disease
- Sport Performance and Business

The Institute’s $68 million high-technology facility is regarded among the best in the world, and is used by researchers, students, professional sports teams and partner organisations.

Groundbreaking research and partnerships with some of the world’s top sporting clubs and organisations, including FIFA and the AFL, have led to Victoria University now being ranked 12th in the world for Sport Science (Shanghai Rankings 2018).

Our Sport Strategy 2019-2023: From Grassroots to Elite is driving us to achieve our ambition to become Australia’s leading sport university.
EXHIBITION FLOOR PLAN

EXHIBITORS

VICTORIA UNIVERSITY  1
HUDL  2
EDGE10  3
NOVOFIT  4
IMEASUREU  5
KINETIC SPORT SCIENCE  6
CATAPULT  7
HUMAN KINETICS  8
FUSION SPORT  9
FRIDAY 7TH JUNE
WORKSHOPS

WCSF2019 is offering additional workshops on Friday 7th June for all fully registered delegates.

These workshops will be held offsite from the Melbourne Convention & Exhibition Centre with the individual workshops information listed below.

SKILL DEVELOPMENT – MOVEMENT VARIABILITY IN FOOTBALL
9.00am – 11.00am  |  Victoria University Footscray Park Campus
This morning workshop session will apply the use of movement variability to develop football skills.
Workshop presented by Professor Jaime Sampaio, and Diogo Coutinho, University of Trás-os-Montes, Portugal.

PLAYER TRACKING AND DATA ANALYTICS
9.00am – 12.30pm  |  Victoria University City Flinders Campus
This workshop will explore current player tracking technology, the issues with its accuracy and ways to analyse the data.
Presented by Associate Professor Sam Robertson, Head of Innovation, Western Bulldogs, TRACK.

This session will also include additional presenters:
» Analytics in Football using position data – presented by Bruno Gonçalves, University of Trás-os-Montes, Portugal
» Managing athlete data using R, an open-source programming language – presented by Dr Alice Sweeting, Western Bulldogs AFL and Victoria University

KICKING – APPLICATION OF SCIENCE IN KICKING
SKILL MONITORING AND DEVELOPMENT
11.00am – 12.30pm  |  Victoria University City Flinders Campus
Using wearable and high speed video technology, this morning session will explore different methods of analysing kicking technique and how to improve the skills of the kicker across soccer, Australian Football and the rugby codes.
Workshop presented by:
◾Professor Hiroyuki Nunome, Fukuoka University, Japan
◾Dr Neal Smith, University of Chichester, UK
◾Dr Neil Bezodis, Swansea University, UK
◾Dr Kevin Ball, TRACK, Victoria University

FOOTBALL STUDIES PUBLISHING WORKSHOP
2.00pm – 4.00pm  |  Victoria University Footscray Park Campus
This roundtable workshop, to be held at the Footscray Park campus of Victoria University, will feature an array of speakers including leading scholars, writers and publishers who will discuss the elements of successful academic publishing in the field of football studies. The workshop is suitable for experienced authors, postgraduate students and aspiring writers who will have the opportunity to share their experiences about the best options and outlets for publishing work on the social-cultural aspects of the various football codes.
Professor Mike Huggins, Emeritus Professor of Cultural History at the University of Cumbria, and Adjunct Associate Professor Rob Hess, Regional Editor of the International Journal of the History of Sport, will chair the workshop.

All WCSF2019 fully registered delegates have been sent an email invitation to register for these optional workshops. If you have not registered but still wish to attend please visit the registration desk for further information.
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...AND WORKING WITH 750+ TEAMS AROUND THE WORLD
GLOBAL GAME-CHANGERS

Professor Rob Aughey’s expertise in athlete tracking systems is kicking goals for world soccer.

Researchers from Victoria University’s Institute of Health and Sport (IHES) joined forces with FIFA to undertake a unique tracking project – the largest of its kind ever conducted in the world.

The research collaboration examined the quality, reliability and reproducibility of GPS tracking devices against a computer vision standard. This was in response to the law-making body IFAB (International Football Association Board) mandating clear usage guidelines on devices during matches.

Better technology will also improve the fan experience, with spectators using an app or watching a broadcast able to discover in real time, for instance, how fast and how far Lionel Messi had run before scoring a goal.

The other vital driver was the game’s integrity, detecting variations in player performance where match-fixing is suspected.

From a field of more than 20 universities around the world, FIFA chose Professor Aughey and the VU team, due to their expertise in computer vision, biomechanics and physiology.

Nicholas Evans – Quality Programme Group Leader, FIFA says, “It will help improve the game. And I’m really pleased to be at this starting point of something that could have a potentially big impact on the game.”

Discover more about Victoria University’s world-leading research and teaching in sport.

vu.edu.au/research/IHES

INSTITUTE FOR HEALTH AND SPORT

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