

2010 High Performance Sports Research Workshop

Day one – Wednesday 12 May 2010

Program is subject to change.

8.30am – Registration and arrival tea and coffee (Conference Facilities)

9.00am – Official welcome (AIS Theatre)

Speaker: Professor Peter Fricker, AIS Director

9.10am – The CSIRO and AIS partnership (AIS Theatre)

Speaker: Dr Steve Morton, CSIRO

9.30am – Research, technology, innovation and AOC's high performance plan (AIS Theatre)

Speaker: Mr Craig Phillips, AOC General Secretary

9.50am – Introduction of AIS and CSIRO Research Partnership Advisory Committee (AIS Theatre)

Speaker: Tim Kelly, AIS Performance Research

10.00am – Current research in high performance sport

SPORT	PRESENTATION	LOCATION
Rowing	<ul style="list-style-type: none"> Identifying critical determinants of rowing by Dr Conny Draper(AIS) and Dr Leo Lazauskus (Cyberiad) 	AIS Theatre
Track and Field	<ul style="list-style-type: none"> Altitude and applicability to walks and 400 metres hurdles by Dr Philo Saunders (AIS) Comparison study of beta-alanine to bi-carbonate in high anaerobic exercise to exhaustion by Amelia Carr (AIS) 	Gold Room

	<ul style="list-style-type: none"> Hamstring injuries in track and field by Professor Peter Blanch (AIS) 	
Triathlon	<ul style="list-style-type: none"> Intermittent hypoxic exposure in running by Clare Gough (University of Canberra and AIS) Neuromuscular control and performance during the cycle-run transition – latest evidence by Jason Bonacci (University of Queensland and AIS) Performance analysis in triathlon by Hamish Jeacocke (AIS) 	Silver Room
Diving	<ul style="list-style-type: none"> Epidemiology of wrist injuries in diving by Alice Miller (Griffith University, QAS, NTID, CSIRO and AIS) Skill acquisition, biomechanics and performance analysis in diving by Sian Barris (QUT, NTID, Diving Australia and AIS) 	Bronze Room

11.00am – Morning tea (Conference Facilities Concourse)

11.30am – Current research in high performance sport

SPORT	PRESENTATION	LOCATION
Swimming	<ul style="list-style-type: none"> Update on small particle hydrodynamics and computational fluid dynamics in swimming by Paul Cleary and Ray Cohen (CSIRO) Swim kinematics and 3D scanning by Bruce Mason (AIS), David Pease (CSIRO and AIS) and Koji Honda (University of Sydney and AIS) Computational fluid dynamics and visual hull recognition in swimming by Matt Keys (UWA and WAIS) 	AIS Theatrette
Tennis	<ul style="list-style-type: none"> Current research in tennis – a holistic view by Machar Reid (Tennis Australia) 	Gold Room
Sailing	<ul style="list-style-type: none"> Development of a 'hiking' bench by Adam Hunter (AIS) Measuring clew load by Mark Davis (AIS) or Michael Dunstan (Australian Sailing Team) Fibre optics to measure mast bend by Dr John Arkwright (CSIRO) 	Silver Room

	<ul style="list-style-type: none"> • Static mast bend assessment by Adam Hunter (AIS) • Weather forecasting by Dr John McGregor (CSIRO) • On-water audio communications by Peter Crowhurst (Phicom) 	
Canoe and Kayak	<ul style="list-style-type: none"> • Low drag racing kayaks by Leo Lazauskus (Cyberiad) • A biomechanical and physiological analysis of elite kayakers during a simulated race by Jake Michael (University of Sydney) • Modelling of kayak blade design to optimise performance by John Baker (AIS) 	Bronze Room

12.30pm – Poster and technology lunch (Indoor Synthetic Pitch)

SPORT	PRESENTATION
Rowing	<ul style="list-style-type: none"> • Sodium bicarb supplementation in rowing – Amelia Carr (AIS) • Identifying critical determinants of rowing – Dr Conny Draper (AIS) • Rowing scull design – Dr Leo Lazauskas (Cyberiad) • The effects of chronic NAHCO₃ ingestion during interval training on physiology and performance in high-trained rowers – M. Driller (University of Tasmania and AIS), J. Fell (University of Tasmania) and J. Gregory (Tasmanian Institute of Sport)
Track and Field	<ul style="list-style-type: none"> • TBC
Triathlon	<ul style="list-style-type: none"> • Elite triathletes run performance and neuromuscular control is preserved after cycling – Jason Bonacci (University of Queensland and AIS) • Altered neuromotor control during running after cycling is corrected with plyometric training – Jason Bonacci (University of Queensland and AIS)
Diving	<ul style="list-style-type: none"> • Epidemiology of wrist injuries in diving – Alice Miller (Griffith University, QAS, NTID, CSIRO and AIS) • Skill acquisition, biomechanics and performance analysis in diving – Sian Barris (QUT, NTID, Diving Australia and AIS)
Swimming	<ul style="list-style-type: none"> • Simulating human swimming using smoothed particle hydrodynamics – Raymond Cohen, Paul Cleary (CSIRO) and Bruce Mason (AIS) • Prediction versus reality: the use of mathematical models to predict elite performance in swimming and athletics at the Olympic Games – Ian

	Heazlewood (Charles Darwin University)
Tennis	<ul style="list-style-type: none"> RF tracking of athletes – Alija Kajan, (CSIRO ICT Centre)
Sailing	<ul style="list-style-type: none"> On-water audio communications – Technology from Phicom Measuring clew load in Sailing – Mark Davis (AIS) Static mast bend assessment – Adam Hunter (AIS), Michael Dunstan and Emmett Lazich (Australian Sailing Team) Development of a 'hiking' bench – Adam Hunter (AIS), Michael Dunstan and Andrew Vernon (Australian Sailing Team)
Canoe and Kayak	<ul style="list-style-type: none"> Enhancing kayak seats design and performance – Nigel Hoschke (CSIRO) Instrumented slalom gate project – Ami Drory (AIS and CSIRO) Sensors in action – Mark Davis (AIS)
Cycling	<ul style="list-style-type: none"> Mountain bike project – Dr Chris Abiss (Edith Cowan University) Project AM 168: longitudinal monitoring – Dr David Martin (AIS) Haemoglobin clamp altitude study – Laura Garvican (Flinders University and AIS) N-acetylcysteine supplementation on cycling – Katie Slattery (NSWIS) Cycling aero twin – Dr Nick Brown (AIS), Ami Drory (AIS), David Martin (AIS), Tim Crouch (Monash University), Scott Wordley (Monash University), David Burton (Monash University) and John Sheridan (Monash University) MyBike set-up – web based data repository – Ami Drory (AIS), My Bike student group (Australian National University), Craig Elphick, Chris Nolan and Aidan Boreham (Australian Sports Commission) Development of a telemetry system for SRM and Power Tap bicycle power meters (bike to car) – Dan Dwyer (VIS) The effect of air pressure and humidity on track cycling pursuit performance – Dan Dwyer (VIS) Low friction bike by – Phil Martin (CSIRO)
Water Polo	<ul style="list-style-type: none"> Time-motion analysis of shooting frequency in high performance women's water polo – Tamara Kefford (University of Canberra and AIS), Alexis Lebedew (AIS) and Keane Wheeler (University of Canberra).
Hockey	<ul style="list-style-type: none"> TBC

Winter Sport	<ul style="list-style-type: none"> • TBC
General	<ul style="list-style-type: none"> • Factor structure of the decathlon: implications for training – Ian Heazlewood (Charles Darwin University) • Statistical approaches to talent identification – Ian Heazlewood (Charles Darwin University) • Factor structure of the women’s heptathlon: implications for training – Ian Heazlewood (Charles Darwin University) • Mobilising sports science – Bodhi Philpot, Ken Taylor, Richard Helmer and Ian Blanchonette (CSIRO) • Personal performance technologies and smart equipment – Ian Blanchonette (CSIRO) • Applying aerospace inspection technology to sporting equipment – Laurence Dickinson (CSIRO) • Ankle proprioception in Injury and performance – Jeremy Witchalls (University of Canberra and AIS)

2.00pm – Current research in high performance sport

SPORT	PRESENTATION	LOCATION
Cycling	<ul style="list-style-type: none"> • Mountain bike project by Dr Chris Abiss (Edith Cowan University) • Project AM 168: longitudinal monitoring by Dr David Martin (AIS) • Haemoglobin clamp altitude study by Laura Garvican (Flinders University and AIS) • Aero twin: aerodynamics for cyclists by Dr Nick Brown (AIS) • Several projects, including MyBike set-up by Ami Drory (AIS) • Pre-cooling strategies and cycling TT performance in the heat by Meg Ross (AIS) 	AIS Theatrette
Water Polo	<ul style="list-style-type: none"> • Quantifying shooting load by Tamara Kefford (AIS) • Monitoring training load in water polo by Dr Sally Clark (AIS) 	Gold Room

	<ul style="list-style-type: none"> • Collaboration with the bench by Alexis Lebedew (AIS) 	
Hockey	<ul style="list-style-type: none"> • Game play modelling in hockey – current initiatives by Dr Stuart Morgan (AIS) 	Silver Room
Winter Sport	<ul style="list-style-type: none"> • TBC 	Bronze Room

3.00pm – Afternoon tea (Conference Facilities Concourse)

3.30pm – Research in action

PRESENTATION	LOCATION
Automated scoring system in boxing	Combat Sports Hall
RF tracking	Basketball and Netball Centre
Swimming research	AIS Aquatic Centre
Recovery research	AIS Recovery Centre
Altitude research	AIS Altitude House

6.00pm – Free time and dinner (AIS Dining Hall or other)

There are no formal dinner arrangements. Delegates accommodated in the ASC Residences may have dinner in the AIS dining hall (at no charge). Alternatively, delegates are encouraged to make their own arrangements as a networking opportunity (at their own expense).