

## DAY 1: MONDAY 20 NOVEMBER

08:00 AM	08:45 AM	Registration Desk Open		*Note this is a DRAFT Programme and may be subject to change
08:45 AM	09:00 AM	Welcome & Opening Remarks	Simon Gandevia	
<b>09:00 AM</b>	<b>11:00 AM</b>	<b>D1 Session 1: <u>Spinal Cord Injury and Novel Therapies</u></b>		Neuroscience Research Australia, Australia
		Chairpersons: Claire Boswell-Ruys & Liz Bye		
09:00 AM	09:30 AM	Spinal Cord Injury: Are we optimizing our rehabilitative therapies enough?	Monica Perez	Shirley Ryan Ability Lab, USA
09:30 AM	10:00 AM	Motor training above, at and below the level of the injury: what we know from clinical trials.	Lisa Harvey	University of Sydney, Australia
10:00 AM	10:15 AM	The effect of acute intermittent hypoxia on voluntary activation of hand and leg muscles in people with chronic incomplete spinal cord injury	Anandit Mathew	Neuroscience Research Australia, Australia
10:15 AM	10:30 AM	Conventional vs kHz transcutaneous spinal stimulation: differences in threshold intensity and pain for single pulses and trains of stimulation	Martin Héroux	Neuroscience Research Australia, Australia
10:30 AM	10:45 AM	Monophasics and biphasics and carriers, oh my(!); carrier frequency markedly influences recruitment thresholds of human axons	David Collins	University of Alberta, Canada
10:45 AM	11:00 AM	Revitalizing neural circuits in complete spinal cord injured rats with intermittent Theta Burst Stimulation (iTBS): A promising therapeutic paradigm	Gunjan Sharma	All India Institute of Medical Sciences, India
<b>11:00 AM</b>	<b>11:30 AM</b>	<b>Morning Tea</b>		
<b>11:30 AM</b>	<b>12:45 PM</b>	<b>D1 Session 2: <u>Respiratory Motor Control</u></b>		University of Melbourne, Australia
		Chairpersons: David Berlowitz & Nicole Sheers		
11:30 AM	12:00 PM	Respiratory motor impairment in ageing, respiratory disease and spinal cord injury.	Jane Butler	Neuroscience Research Australia, Australia
12:00 PM	12:30 PM	Resilience of mitochondrial remodeling: Role in respiratory motor impairment	Gary Sieck	Mayo Clinic, USA
12:30 PM	12:45 PM	Graded pattern of human parasternal intercostal muscle activity recorded with surface electromyography	Anna Hudson	Flinders University, Australia
<b>12:45 PM</b>	<b>01:45 PM</b>	<b>Lunch</b>		
<b>01:45 PM</b>	<b>03:15 PM</b>	<b>D1: Posters</b>		
		P01: Impact of respiratory muscle training on sleep disordered breathing in tetraplegia: a secondary analysis of a randomised controlled trial	Claire Boswell-Ruys	Neuroscience Research Australia, Australia
		P02: The suitability of the Hypoxico Hyp123 Altitude Generator as a low oxygen delivery method for therapeutic acute intermittent hypoxia research trials	Nicole Sheers	University of Melbourne, Australia
		P03: The effect of acute intermittent poikilocapnic hypoxia (AIH) and acute intermittent normoxic hypercapnia (AIC) on voluntary activation of the adductor pollicis in humans	Anandit Mathew	Neuroscience Research Australia, Australia
		P04: Body composition and reactive stepping impairment in older people	Yoshiro Okubo	Neuroscience Research Australia, Australia

		P05: Physiological validity of treadmill belt accelerations in simulating a walkway trip in older people	Steven Phu	Neuroscience Research Australia, Australia
		P06: Voluntary activation of the respiratory muscles determined by spinal root magnetic stimulation during graded respiratory efforts	Chiettha Prajnadewie	Neuroscience Research Australia, Australia
		P07: Can transcutaneous spinal cord stimulation “boost” contractions produced by functional electrical stimulation?	David Collins	University of Alberta, Canada
		P08: Transcutaneous spinal cord stimulation of the cervical spine: waveform frequency, muscle recruitment, anode location and tolerability	Terry Trinh	Neuroscience Research Australia, Australia
		P09: Perspectives on barriers to use and benefits of functional electrical stimulation from Australians and New Zealanders with SCI and clinicians and researchers in the field	Annie Palermo	Neuroscience Research Australia, Australia
		P10: Longitudinal changes in motor neurone maximal firing frequencies with Amyotrophic Lateral Sclerosis (ALS) disease progression	Lucas Orssatto	Deakin University, Australia
		P11: Motor unit tracking using blind source separation filters and waveform cross-correlations: reliability under physiological and pharmacological conditions	Benjamin Goodlich	Griffith University, Australia
		P12: Paraspinal muscle volume and intramuscular fat asymmetry in adolescent idiopathic scoliosis	Phoebe Duncombe	University of Queensland, Australia
		P13: The interaction between metaplastic neuromodulation and neuromuscular fatigue	Madison Boda	University of Adelaide, Australia
		P14: Lower limb muscles weakness contributions to walking impairments in people with Multiple Sclerosis	Phu Hoang	Neuroscience Research Australia, Australia
		P15: Tools for assessment of upper limb function are useful in both studies of healthy individuals and those with different motor impairments	Annie Butler	Neuroscience Research Australia, Australia
		P16: Glial activation in sensory and motor regions of the cortex is related to sensorimotor function in individuals with low back pain maintained by nociplastic mechanisms	Paul Hodges	University of Queensland, Australia
<b>02:45 PM</b>	<b>03:15 PM</b>	<b>Afternoon tea</b>		
<b>03:15 PM</b>	<b>04:45 PM</b>	<b>D1 Session 3: <u>Motoneurons and Movement</u></b>		University College London, UK/ Neuroscience Research Australia, Australia
		Chairpersons: John Rothwell & Jane Butler		
03:15 PM	03:45 PM	NeuroMechanics of human movement: A motor neurone centric view	Dario Farina	Imperial College London, UK
03:45 PM	04:00 PM	Effect on human motor unit firing rates during recovery from fatigue: competing effects of prolonged low-frequency force depression and post-activation potentiation	Alexander Zero	University of Western Ontario, Canada
04:00 PM	04:15 PM	Longitudinal changes in the contribution of persistent inward currents to motoneuron self-sustained firing are dependent on Amyotrophic Lateral Sclerosis (ALS) disease progression	Gabriel Trajano	Queensland University of Technology, Australia
04:15 PM	04:30 PM	Descending drive to spinal motoneurons is necessary for 5-HT2 modulation of motoneurone excitability in humans	Tyler Henderson	Griffith University, Australia
04:30 PM	04:45 PM	Subcortical control of human reaching?	Timothy Carroll	University of Queensland, Australia
<b>05:00 PM</b>	<b>06:30 PM</b>	<b>Welcome Drinks &amp; Pizza Event</b>		

## DAY 2: TUESDAY 21 NOVEMBER

08:30 AM	09:00 AM	Registration Desk Open		
<b>09:00 AM</b>	<b>10:30 AM</b>	<b>D2 Session 1: <u>ALS and Parkinson's Disease</u></b> Chairpersons: Martin Héroux & Graham Kerr		Neuroscience Research Australia, Australia/ Queensland University of Technology, Australia
09:00 AM	09:30 AM	Amyotrophic lateral sclerosis-Update on current concepts and management	Steve Vucic	University of Sydney, Australia
09:30 AM	10:00 AM	Parkinson's disease - a clinical perspective	Carolyn Sue	University of New South Wales, Australia
10:00 AM	10:15 AM	The impact of aerobic exercise and/or photobiomodulation compared to usual care on non-motor symptom severity of Parkinson's Disease: A pilot randomised crossover study	Joyce Ramos	Flinders University, Australia
10:15 AM	10:30 AM	Early treatment of auricular electro-acupuncture on motor behavioral deficits with 6- hydroxydopamine-induced Parkinson's disease in rats	Huong T.M. Nguyen	China Medical University, Taiwan
<b>10:30 AM</b>	<b>11:00 AM</b>	<b>Morning Tea</b>		
<b>11:00 AM</b>	<b>12:15 PM</b>	<b>D2 Session 2: <u>Research Quality, Motor Control &amp; More</u></b> Chairpersons: Simon Gandevia, Gary Sieck		Neuroscience Research Australia, Australia/ Mayo Clinic, USA
11:00 AM	11:30 AM	Hippocrisy - how doctors are betraying their oath	Rachelle Buchbinder	Monash University, Australia
11:30 AM	11:45 AM	Avoid hypocrisy and improve the reproducibility of research	Simon Gandevia	Neuroscience Research Australia, Australia
11:45 AM	12:00 PM	Quantifying muscle activation asymmetry in adolescent idiopathic scoliosis	Kylie Tucker	University of Queensland, Australia
12:00 PM	12:15 PM	Sensory and motor responses to burst-modulated, kilohertz carrier frequency stimulation of a peripheral nerve	Billy Luu	Neuroscience Research Australia, Australia
<b>12:15 PM</b>	<b>06:30 PM</b>	<b>Lunch &amp; Free Time to explore Sydney</b>		
<b>06:30 PM</b>	<b>10:00 PM</b>	<b>Conference Dinner at Museum of Contemporary Art</b>		

## DAY 3: WEDNESDAY 22 NOVEMBER 2023

09:00 AM	09:30 AM	Registration Desk Open		
<b>09:30 AM</b>	<b>10:45 AM</b>	<b>D3 Session 1: <u>Falls &amp; More</u></b> Chairpersons: Annie Butler & Yoshi Okubo		Neuroscience Research Australia, Australia
09:30 AM	10:00 AM	Biomechanics of falls and injury prevention	Steve Robinovitch	Simon Fraser University, Canada
10:00 AM	10:15 AM	The adaptability and transfer of muscular responses following treadmill and walkway perturbation training	Steven Phu	Neuroscience Research Australia, Australia
10:15 AM	10:30 AM	Normative data and predictive value of daily-life mobility indicators for older adults: Insights from UK Biobank	Lloyd Chan	Neuroscience Research Australia, Australia
10:30 AM	10:45 AM	Real-time video analysis of eating behaviour biofeedback system in children with cerebral palsy	Yupeng Zhang	University of Sydney, Australia
<b>10:45 AM</b>	<b>11:15 AM</b>	<b>Morning Tea</b>		

<b>11:15 AM</b>	<b>12:30 PM</b>	<b>D3 Session 2: <u>Vestibular disorders and Multiple Sclerosis</u></b> Chairpersons: Jasmine Menant & Phu Hoang		Neuroscience Research Australia, Australia
11:15 AM	11:45 AM	Capturing vestibular disorders by event monitoring	Miriam Welgampola	University of Sydney, Australia
11:45 AM	12:00 PM	The effect of postural demand on cortical and motoneuronal excitability	Paige Copeland	University of British Columbia, Canada
12:00 PM	12:15 PM	The interaction between metaplastic neuromodulation and fatigue in multiple sclerosis	Simran Sidhu	University of Adelaide, Australia
12:15 PM	12:30 PM	Fatigue-related deficits in muscle activation in people with Multiple Sclerosis	Justin Kavanagh	Griffith University, Australia
<b>12:30 PM</b>	<b>01:30 PM</b>	<b>Lunch</b>		
<b>01:30 PM</b>	<b>03:00 PM</b>	<b>D3 Session 3: <u>Falls and other neurological conditions</u></b> Chairpersons: Kylie Tucker & Anna Hudson		University of Queensland, Australia/ Flinders University, Australia
01:30 PM	02:00 PM	Falls in different neurological conditions	Jasmine Menant	Neuroscience Research Australia, Australia
02:00 PM	02:15 PM	Relationship between proprioceptive ability and function in people with stroke, Parkinson's disease and multiple sclerosis – A systematic review	Lucy Robertson	Neuroscience Research Australia, Australia
02:15 PM	02:30 PM	Functional neuroimaging of the effects of tDCs on balance control in Parkinson's disease: a randomized double-blind sham-controlled study	Graham Kerr	Queensland University of Technology, Australia
02:30 PM	02:45 PM	Effects of a telehealth program on the risk of falling in older people with dementia	Carolina Tsen	Federal University of Sao Carlos, Brazil
02:45 PM	03:00 PM	Muscle- and sex-specific volumes of lower leg muscles in children with cerebral palsy	Bart Bolsterlee	Neuroscience Research Australia, Australia
03:00 PM	03:15 PM	Final remarks and prizes		
<b>3:15 PM</b>	<b>03:45 PM</b>	<b>Afternoon tea</b>		
<b>END OF CONFERENCE</b>				

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