

MedSci 2021 Programme at a glance

Tuesday 31st August 2021

4:00 pm – 6:00 pm	Posters
6.30 pm – 7.30 pm	Professor Gary Evans, Chief Science Adviser MBIE “The Changing Landscape of Science Funding”
7.30 pm – 9.30 pm	Fashionomics

Wednesday September 1st

9.00 am – 10.00 am	MedSci Plenary Lecture 1: Prof Leo Cheng University of Auckland	
10.00 am – 10.30 am	Morning Tea	
10.30 am – 12.30 pm	Session 1A: PSNZ Bullivant Prize Finalists	Session 1B: Physiological insights through state-of-the-art imaging
12.30 pm – 1.30 pm	Lunch and separate PSNZ and NZSE AGM’s	
1:30 – 3:30	Session 2A: PSNZ Hubbard Prize Finalists and Early Career Finalists	Session 2B: NZSE Prize Talks
3.30 pm – 4:00 pm	Afternoon Tea	
4.00 pm – 5:00 pm	Session 3A: Infoblitz Presentations	Session 3B: Infoblitz Presentations
5.30 pm	MedSci Dinner + Prize-giving TBA	

Thursday 2nd September 2021

9.00 am – 10.00 am	MedSci Plenary Lecture 2: Prof Michael Baker <i>sponsored by University of Otago</i> University of Otago, Wellington	
10.00 am – 10.30 am	Morning Tea	
10.30 am – 12.30 pm	Session 4A: PSNZ: The challenges of improving perinatal care	Session 4B: Infoblitz Presentations & Free Communications
12.30 pm – 1.30 pm	Lunch and MedSci AGM	
1.30 pm – 3.30 pm	Session 5A: PSNZ: Bioelectrical events in muscle contraction	Session 5B: NZSE & CNE: Early (and not so early) life determinants of adult health
3.30 pm – 4.00 pm	Afternoon Tea	
4.00 pm – 5.30 pm	Session 6A: Free communications	Session 6B: NZSE & CNE: Endocrine and Neuroendocrine showcase

Tuesday, August 31st 2021	
Combined poster session	
4.00 pm - 6.00 pm	MedSci posters <i>sponsored by Abacus DX</i> Marquee
6.30 pm – 7.30 pm	Professor Gary Evans, Chief Science Adviser MBIE “The Changing Landscape of Science Funding” Queenstown & Wakatipu room
7.30 pm – 9.30 pm	Fashionomics <i>Sponsored by Thermo Fisher Scientific</i> Trades Area, Level 4, Rydges Hotel (with drinks)

Wednesday, September 1st 2021			
MedSci Plenary Lecture			
Queenstown & Wakatipu Room w overflow in QT Dart Room			
9.00 am - 10.00 am	Prof Leo Cheng <i>Origin and Propagation of Slow Wave Activity in the Gastrointestinal Tract: A Bioengineering Perspective (M1)</i> Chair: Peng Du PSNZ sponsored		
10.00 am - 10.30 am	Morning Tea: Trade Exhibition Area, Level 4 & Level 5		
10.30 am - 12.30 am	Session 1A: PSNZ Bullivant Prize Finalists Room: Clancy's Room, Level 5 Chairs: Regis Lamberts & Karl Iremonger	10.30 am - 12.30 am	Session 1B: Physiological insights through state-of-the-art imaging Room: QT Rees Room w overflow in QT Dart Room Chairs: Greg Sands and Mahyar Osanlouy
10.30 am - 10.42 am	1A.1 Bullivant Prize Finalist 1: Marco Annandale <i>Cardiac fructose accumulation in diabetes precedes the onset of diastolic dysfunction and is associated with lipid accumulation (M2)</i>	10.30 am - 10.55 am	1B.1 David Baddeley University of Auckland (ABI) and Yale <i>Investigating cellular nanostructure using high-throughput super-resolution microscopy (M12)</i>
10.42 am - 10.54 am	1A.2 Bullivant Prize Finalist 2: Yourong Feng <i>Do placental extracellular vesicles modify maternal cardiovascular functions? (M3)</i>		
10.54 am - 11.06 am	1A.3 Bullivant Prize Finalist 3: Timothy Jones <i>Impairment of calcium handling contributes to diminished contractile function and an arrhythmogenic substrate in atrial trabeculae of patients with type 2 diabetes (M4)</i>	10:55am – 11:20am	1B.2 Jesse Ashton University of Auckland ABI/Physiology <i>Revealing the secrets of nerve activity in the heart using 3D imaging (M13)</i>
11.06 am - 11.18 am	1A.4 Bullivant Prize Finalist 4: Anna Krstic		

	<i>Beat-to-beat mitochondrial calcium fluxes in non-failing hypertrophic cardiomyocytes (M5)</i>		
11.18 am	1A.5 Bullivant Prize Finalist 5: Sachira Kuruppu <i>Electrophysiological and contractile nature of mesenteric ischemia and reperfusion, as defined through simultaneous high-resolution electrical and video mapping (M6)</i>	11:20am – 11:45am	1B.3 Vicky Low University of Auckland CBR <i>Three-dimensional modelling of the human olfactory system and its changes in Parkinson's disease (M14)</i>
11.30 am	1A.6 Bullivant Prize Finalist 6: Valeria Mereacre <i>Phosphorylation of RyR2 by CK2 is anti-arrhythmic (M7)</i>		
11.42 am	1A.7 Bullivant Prize Finalist 7: Michael Perkinson <i>Reproductive plasticity in oxytocin neuron activity in freely-behaving mice (M8)</i>	11:45am – 12:10am	1B.4 Mahyar Osanlouy University of Auckland ABI <i>Mapping the heart's little brain (M15)</i>
11.54 am	1A.8 Bullivant Prize Finalist 8: Petra White <i>Assessment of cortical development using neurite orientation dispersion and density imaging in the neonatal rat (M9)</i>		
12.06 pm	1A.9 Bullivant Prize Finalist 9: Kelly Zhou <i>Deficit in EEG power recovery after hypothermia treatment for ischemic brain injury is related to persisting neuroinflammation and white matter injury (M10)</i>	12:10 pm – 12:35	1B.5 Eryn Kwon Mātai / University of Auckland FMHS <i>Advanced MRI methods in traumatic brain injury research (M16)</i>
12.18 pm	1A.10 Bullivant Prize Finalist 10: Joyce John <i>Understanding idiopathic pulmonary fibrosis – a multiscale quantitative approach (M11)</i>		
12.30 pm- 1.30 pm	PSNZ AGM & MedSciNZ AGM	12.30 pm	
12.30 pm - 1.30 pm	Lunch: Trade Exhibition Area, Level 4 & Level 5, Rydges Hotel		
1:30 - 3.30 pm	Session 2A PSNZ Hubbard Prize & Early Career Researcher Prize Finalists Room: Clancy's Room, Level 5 Chairs: Fiona Macdonald & Martin Fronius		Session 2B NZSE Prize talks Room: QT Rees Room w overflow in QT Dart Room Chairs: TBC
1.30 pm – 1.50 pm	2A.1 Hubbard Prize Finalist 1: Hamish Aitken-Buck <i>Arrhythmogenic and contractility effects of circulating acylcarnitines (M17)</i>	1.30 pm – 1.42 pm	2B.1: Student oral finalist 1: Charisse Kuo <i>NLRP3 Inflammasome activity in retinal and choroidal tissues from diabetic donors with and without retinopathy (M22)</i>
1.50 pm – 2.10 pm	2A.2: Hubbard Prize Finalist 2: Jaya Prasad <i>Promoting IGF Receptor Signalling to Treat Inflammation-Related Brain Injury (M18)</i>	1.42 pm – 1.54 pm	2B.2: Student oral finalist 2: Rebecca Lord <i>A novel leptin receptor mutation causes delayed puberty onset in mice (M23)</i>
2.10 pm – 2.30 pm	2A.3: Hubbard Prize Finalist 3: Igor Felipe	1.54 pm – 2.06 pm	2B.3: Student oral finalist 3: Sharon Richard

	<i>Sympathetic Control of Carotid Body Excitability in Spontaneously Hypertensive Rats (M19)</i>		<i>Kinetics of follicle growth in the mouse ovary reveals a high-degree of growth-rate heterogeneity (M24)</i>
		2.06 pm – 2.18 pm	2B.4: Student oral finalist 4: Judith Swart <i>A role for lactogenic hormones in maternal motivation in mice (M25)</i>
2.30 pm – 3.00 pm	2A.4: Early-Career Prize Finalist 1: Joon Kim <i>Threat level adaptations of stress and anxiety states (M20)</i>	2.18 pm – 2.30 pm	2B.5: Student oral finalist 5: Issac Trip <i>Should I stay or should I go? Studying the links between stress, anxiety, and motivation using a foraging task (M26)</i>
		2.30 pm – 2.42 pm	2B.6: Student oral finalist 6: Yiran Zhou <i>A novel potential role of Anti-Mullerian Hormone(AMH) on ovarian follicle selection (M27)</i>
3.00 pm - 3.30 pm	2A.5: Early-Career Prize Finalist 2: Christopher Lear <i>What on earth controls fetal heart rate? (M21)</i>	2.45 pm – 3.10 pm	2B.1 Early career finalist: Siew Hoong Yip <i>Prolactin-induced switch in neurohormone secretion in maternal brain (M28)</i>
		3.10 pm – 3.30 pm	NZSE AGM
3.30 pm - 4.00 pm	Coffee Break: Trade Exhibition Area, Level 4 & Level 5 Rydges Hotel		
4.00 – 5:00 pm	Session 3A Infoblitz Presentations: Room: Clancy's Room, Level 5 Chairs: Kristina Smiley & Rosie Brown <i>sponsored by Lab Supply</i>	4.00 pm - 5.00 pm	Session 3B: Infoblitz Presentations: Room: QT Rees Room w overflow in QT Dart Room Chairs: Kenneth Tran & Marie Ward
4.00 pm – 4.15 pm	3A.1: Guido Wassink <i>Epileptiform EEG transients predict hippocampal, but not striatal, neuronal loss after hypoxia-ischemia in near-term fetal sheep (M29)</i> 3A.2: Simerdeep Dhillon <i>The role of sympathetic nervous system in cerebral perfusion changes during post-asphyxial seizures in preterm fetal sheep (M30)</i> 3A.3: Mariana Muelbert <i>Olfactory cues in milks fed to preterm infants: the story told by volatile compounds (M31)</i>	4.00 pm – 4.15 pm	3B.1: Gonzalo Maso Talou <i>Translating cardiovascular models into clinical practice via AI-surrogates (M41)</i> 3B.2: S.J Allison <i>Development of a multi-compartment pharmacokinetic model of methoxyflurane distribution and metabolism following inhalation (M42)</i> 3B.3: Recep Avci <i>Characterising spatial signatures of gastric electrical activity using biomagnetic source localisation (M43)</i>
4.15 pm - 4.30 pm	3A.4: Hamid Abbasi <i>Automated Infant Movement Tracking for Early Diagnosis of Neurodevelopmental Disorders using Deep-Learning (M32)</i> 3A.5: Hanna Allerkamp <i>Pregnancy specific paracrine factors influence the flow-mediated response of uterine radial arteries (M33)</i>	4.15 pm - 4.30 pm	3B.4: Sam Simmonds <i>Anatomically-specific, 3D-printed cradles enable in vivo mapping of the bioelectrical slow wave activation across the gastrointestinal junction (M44)</i> 3B.5: Shan Su <i>A Mathematical Model of the Salivary Gland Duct Cells (M45)</i> 3B.6: Yang Yu

	3A.6: Shaima Albeloushi <i>Effect of Branched Chain Amino Acid Supplementation on Endocrine Pancreas in Preterm-born Lambs at One Year of Age (M34)</i>		<i>Estimation of diameter change of artery using bio-impedance measurement: a Finite Element Analysis (M46)</i>
4.30 pm – 4.45 pm	3A.7: R. Emmanuel <i>Machine Learning Exploration of Weight and Mental Health in PCOS (M35)</i> 3A.8: Louie George <i>The role of microglia in polycystic ovary syndrome (M36)</i> 3A.9: Victoria Sugrue <i>Castration delays epigenetic aging and feminises DNA methylation at androgen-regulated loci (M37)</i>	4.30 pm – 4.45 pm	3B.7: Sarah McQueen <i>The Influence of the Epithelial Sodium Channel (ENaC) in Breast Cancer Cells (M47)</i> 3B.8: Hossein Hadi Najafabadi <i>Experimental and Numerical Study of Light Obscuration in Laparoscopy (M48)</i> 3B.9: Jamie Paul <i>Investigating the effects of corticosteroids on CRH nerve terminal excitability (M49)</i>
4.45 pm – 5.00 pm	3A.10: Teena Gamage <i>Could fetal neural stem cell-derived extracellular vesicles have therapeutic utility in treating preterm brain injury? (M38)</i>	4.45 pm – 5.00 pm	3B.10: Luke Phillips (#111) <i>RyR2 trafficking and its role in Alzheimer's Disease (M50)</i> 3B.11: Joan Chan (#112) <i>The effect of S107 on RyR2 clustering in AD-like neuronal cells (M51)</i>
5.30 pm	MedSci Dinner Earnslaw + Prize-giving <i>sponsored by Mediray</i>		

Thursday			
MedSci Plenary Lecture Queenstown & Wakatipu Room w overflow in QT Dart Room			
9.00 am - 10.00 am	Prof Michael Baker <i>How Aotearoa New Zealand is beating Covid-19 and key lessons for the future (M53)</i> Chair: Dave Grattan CNE sponsored		
10.00 am - 10.30 am	Morning Tea: Trade Exhibition Area, Level 4 & Level 5		
10.30 am - 12.30 pm	Symposium 4A (PSNZ): The challenges of improving perinatal care Room: Clancy's Room, Level 5 Chairs: Simerdeep Dhillon & Joanne Davidson	10.30 am - 12.30 pm	Symposium 4B: Infoblitz Presentations & free communications Room: QT Rees Room w overflow in QT Dart Room Chairs: Michelle Munro & Carolyn Barrett.
10.30 am - 11.00 am	4A.1: Malcolm Battin Auckland District Health Board	10.30 am - 10.45 am	4B.1: Siyi (Robert) Chen <i>Exercise intolerance in an ovine model of heart failure with preserved ejection fraction (M58)</i> 4B.2: Jui-lin Fan

	<i>Neonatal Encephalopathy in New Zealand: What have we learnt and what are the challenges ? (M54)</i>		<i>The peripheral chemoreflex and lower limb venous compliance (M59)</i> 4B.3: P.N. Williamson <i>In vitro analysis of competitive flow in extra-anatomic bypasses of the arteries of the aortic arch (M60)</i>
		10.45 am - 11.00 am	4B.4: Paddy Cheah <i>Diabetes induced changes in the Ca²⁺ clock protein SERCA2a (M61)</i> 4B.5: David Crossman <i>Calcium handling in cardiomyocytes isolated from Collagen VI knockout rat hearts (M62)</i> 4B.6: Sarbjot Kaur <i>Relative abundance and subcellular distribution of exchange proteins directly activated by cAMP (Epac) in human atrial tissue (M63)</i>
11.00 am - 11.30 am	4A.2: Alys Clark University of Auckland (ABI) <i>Can new imaging and computational approaches help to identify pregnancies at risk of fetal growth restriction? (M55)</i>	11.00 am - 11.15 am	4B.7: Abdallah Hasaballa <i>Examining the effects of ACE inhibitor treatment on the biomechanical structure-function relationship in hypertensive heart disease (M64)</i>
		11.15 am - 11.30 pm	4B.8: Tonja Emans <i>The Forgotten Circulation: Venous pressure and mesenteric flow in normotensive and hypertensive conscious rats (M65)</i>
11.30 am - 12.00 pm	4A.3: Justin Dean University of Auckland (Physiology) <i>sponsored by Abacus DX</i> <i>Does prolonged mild-moderate postnatal inflammation contribute to impaired brain development in preterm infants? (M56)</i>	11.30 am - 11.45 am	4B.9: Amelia Power <i>Nitric oxide and β-adrenergic stress in the human heart (M66)</i>
		11.45 am - 12.00 pm	4B.10: Pratik Thakkar <i>A novel blood sugar signalling mechanism (M67)</i>
12.00 pm - 12.30 pm	4A.4: Joanne Davidson University of Auckland (Physiology) <i>Mild perinatal hypoxic ischemic brain injury – should we treat it and how? (M57)</i>	12.00 pm - 12.15 pm	4B.11: Ana Luiza Sayegh <i>Sex-differences in the sympathetic and cardiorespiratory responses to hypoxia and hypercapnia (M68)</i> 4B.12: Thiranja Babarenda Gamage <i>Clinical translation of personalised cardiac biomechanical models for characterising mechanisms of heart failure (M69)</i> 4B.13: Isabelle Van Hout <i>Representation of Māori and Pacific patients in cardiac research requiring tissue collection in the Southern District health Board region in Aotearoa (M70)</i>
		12.15 pm - 12.30 pm	4B.14: Mridula Pachan <i>Autonomic Control of Coronary Blood Flow in Control and Heart Failure Ovine Models (M71)</i> 4B.15: Puja Paudel <i>Characterisation of ENaC in human arteries; a potential drug target in hypertension (M72)</i> 4B.16: Yann Huey Ng <i>Increased myofilament calcium sensitivity but preserved SERCA activity in type 2 diabetic rat heart (M73)</i>

12.30 pm	A panellist's-eye view of grant assessment led by Colin Brown		
12.30 pm - 1.30 pm	Lunch: Trade Exhibition Area, Level 4 & Level 5, Rydges Hotel		
1.30 pm – 3.30 pm	Symposium 5A (PSNZ): Bioelectrical events in muscle contraction Room: Clancys Room, Level 5 Chair: Peng Du & Armen Gharibans	1.30 pm – 3.30 pm	Symposium 5B (CNE & NZSE): Early (and not so early) life determinants of adult health Room: TBC Chair: Greg Anderson & Mike Garratt sponsored by Lab Supply
1.30 pm - 2.00 pm	5A.1 Maggie-Lee Huckabee University of Canterbury <i>Neuromuscular control of swallowing (M74)</i>	1.30 pm - 2.00 pm	5B.1: Max Berry University of Otago, Wellington <i>Effects of preterm and perinatal drug exposure (M78)</i>
2.00 pm - 2.30 pm	5A.2 Jadranka Travas-Sejdic University of Auckland <i>Applications of conductive polymers in biological recordings (M75)</i>	2.00 pm - 2.30 pm	5B.2: Sharon Ladyman University of Otago <i>Pregnancy influences (M79)</i>
2.30 pm - 3.00 pm	5A.3 Yusuf Cakmak University of Otago <i>Effects of neuromodulation on gastric slow waves validated using high-resolution body-surface mapping (M76)</i>	2.30 pm - 3.00 pm	5B.3: Troy Merry University of Auckland sponsored by Maurice Wilkins Centre <i>Influence of insuling signaling suppression/CREBRF variant/mitochondrial peptides on metabolic health (M80)</i>
3.00 pm - 3.30 pm	5A.4 John Rudd Chinese University of Hong Kong <i>Effects of pharmacological agents on gastrointestinal electrophysical investigated using micro-electrode array (M77)</i>	3.00 pm - 3.30 pm	5B.4: Mike Garrett University of Otago <i>Reproductive influences on health and ageing (M81)</i>
3.30 pm - 4.00 pm	Coffee Break: Level 5 Lobby		
4.00pm - 6.00pm	Symposium 3=6A: Free communications Room: Clancy's Room, Level 5 Chairs: Guido Wassink & Julia Shanks	4.00pm - 6.00pm	Symposium 6B (NZSE & CNE): Endocrine and Neuroendocrine showcase Room: TBC Chairs: Carolyn Decourt & Greg Anderson
4.00 pm - 4.10 pm	6A.1: Tanya Cully <i>The role of Nox4 ROS in RyR1 Ca²⁺ leak in dystrophic skeletal muscle (M82)</i>	4.00 pm - 4.30 pm	6B.1: Rosie Brown University of Otago <i>A novel role for prolactin in fine-tuning maternal responses (M89)</i>
4.10 pm - 4.20 pm	6A.2: Kathryn Lee <i>IGF-II derived vesiculin can drive islet mass expansion in a mouse model of pre-diabetes (M83)</i>		
4.20 pm - 4.30 pm	6A.3: Mousa Kazemi <i>A Finite Element Model of the Triceps Surae Muscles in Infant Humans, and a Pilot Study for Botulinum Toxin Treatment Planning for Spasticity (M84)</i>	4.30 pm - 5.00 pm	6B.2: Carolyn Decourt University of Otago <i>Development of long-acting kisspeptin agonists for ovulation induction (M90)</i>
4.30 pm - 4.45 pm	6A.4: Sien Yee Lau <i>Placental extracellular vesicles in preeclampsia, where do they go and what do they do? (M85)</i>		
4.45 pm - 5.00 pm	6A.5: Yugo Watanabe <i>Investigating changes in androgen and progesterone receptor expression in the aetiology of PNA-induced polycystic ovary syndrome (M86)</i>	5.00 pm - 5.30 pm	6B.3: Rinki Murphy University of Auckland sponsored by Thermo Fisher Scientific <i>Precision medicine in diabetes (M91)</i>

5.00 pm - 5:15 pm	6A.6: Jo Perry <i>The growth hormone receptor interacts with transcriptional regulator, HMGN1, upon GH-induced nuclear translocation (M87)</i>	5:30 pm - 6:00 pm	6B.4: Ryan Paul University of Waikato <i>Hormonal regulation of sexually dimorphic growth (M92)</i>
5.15 pm - 5.30 pm	6A.7: Michael Pankhurst <i>AMH modulates luteinising hormone secretion during pregnancy in a mouse miscarriage model (M88)</i>		