

Western Health - AIMSS & Robert Helme Neuroscience Research Symposium 2025

Monday, 20th of October 2025, 9:00 – 5:45pm

Care and Cure- Musculoskeletal and Neurodegenerative Diseases – International Symposium, AIMSSNR 2025

Join us from 9.00 am - 5:45pm AEDT at 1st Floor, WCHRE Building, Western Medicine School, Sunshine Hospital, 176 Furlong Road, St Albans Vic 3021. Some sessions may be hosted at different rooms and please follow signage on the day.

Hybrid Delivery:

Attending the event at Sunshine: Please register here at Eventbrite with an event ticket option if you plan to attend the event physically at the auditorium.

Registration links are at the end of this flyer.

Monday, 20th of October 2025, 9:00 – 5:45pm Annual AIMSS Research Symposium – AIMSSNR 2025.

@WCHRE, Western Hospital, Sunshine Campus, Victoria, Australia

Care and Cure - Musculoskeletal and Neurodegenerative Diseases

Session 1: 9.00 am to 10.15am AEDT, Discovery to Impact: Advancing Translational Research for Lifelong Health - Addressing the Challenges of Ageing, Chronic Disease, and Complex Health Conditions.

Session 2: 10.30am - 12.15pm AEDT, Robert Helme Neuroscience symposium- Brain Health, Neuromuscular and Degenerative Diseases

Session 3: 13.15pm to 15.15pm AEDT, From Hospital to Community: Frontline Clinical Experiences in Musculoskeletal Care of Senior Citizens

Session 4: 15.30 pm to 17.45pm AEDT, AIMSS Annual Keynotes, Researcher presentations, and Abstract Presentations from AIMSS and Neuroscience Teams,

Please see the detailed program, registration links and short profile-bio of all invited presenters from page 2 onwards.

Symposium program

AIMSS & Robert Helme Neuroscience symposium:

Care and Cure- Musculoskeletal and Neurodegenerative Diseases – AIMSSNR2025

AIMSSNR2025– 20th Oct 2025

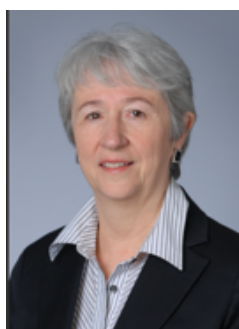
Time	Session		Link
09:00 - 10:20 am	Session 1: Discovery to Impact - Advancing Translational Research for Lifelong Health	Session Chair: Prof Alan Hayes, Acting Director, AIMSS, Western Health)	
09.10 am	Keynote address: Professor Dr Lynda Bonewald, Director, Indiana Centre for Musculoskeletal Health, Indiana, United States	Sex Specific Effects by Factors Responsible for Muscle/Bone Crosstalk	
09.45 am	A/Prof Dr Diana Carlone, Harvard Medical School, United States	Defining the actions of Cfp1, an epigenetic regulator that drives bone and cartilage development	
10:20 - 10:30 Tea Break			
10.30 – 12:15	Session 2: Robert Helme Neuroscience Symposium: Brain Health, Neuromuscular and Degenerative Diseases	Session Chair: Prof Tissa Wijeratne, Head, Neurology, Western Health	
	Program - TBC		
12:15 - 13:15 Lunch break			
13.15 – 15.30 pm	Session 3: From Hospital to Community: Frontline Clinical Experiences in Musculoskeletal Care of Senior Citizens	Session Chair/Moderator: TBC	
13:20 pm	Dr Mizhgan Fatima, MBBS, FRACP, Geriatrician, Western Health, Australia	Bone-Muscle interactions and Frailty: Recognising musculoskeletal pathway to frailty in older people	
13:40pm	Dr Steven Lu, MBBS (hons), DCH, FRACGP, Co-founder/CMO Everlab, Australia	Musculoskeletal care and longevity prevention strategies	
14.05	Dr Louise Heyzer, MBBS(UK), MRCP(UK), MMed (Int Med), Geriatrician, Woodlands Health, Singapore	From fractures to Frailty: The Complexities of Tackling Osteosarcopenia	
14:25 pm	A/Prof Frederick Koh, MBBS, MMed (surg), FRCS(Ed), PhD, FAMS (surg), FACS Consultant Surgeon, PI SingHealth Duke-NUS Muscle Health Programme, Singapore	The multifaceted approach to managing Sarcopenia in surgical patients.	
14:50 pm	Dr Koshala Rupassara, MBBS(SL), MRCS(UK), MRCGP(UK), FRACGP (AUS), Aspendale Garden Medical Centre	Holistic approach to sarcopenia in primary care	

15.15 pm			
15:15 - 15:30	Afternoon Tea Break		
15:30- 17:45	Session 4: AIMSS Annual Keynotes, Researcher presentations, and Abstract Presentations from AIMSS and Neuroscience Teams	Session Chair: Prof Alan Hayes	
15.30pm	Session opening	Chief Medical Officer & Western Health executives	
15.40	A/Prof Nicole Stupka, Principal Research Fellow, Institute of Health and Sport (IHeS), Victoria University, Program Director AIMSS	Targeting the matrix to improve skeletal muscle health from the outside in.	
16.00	Prof Vasso Apostopoulos, AM, Professor of Immunology, Director Centre for Healthy Lifespan and Chronic Diseases, RMIT University, Program Director of AIMSS	Improving Health Longevity	
16.30	Dr Ahmed Al Saedi, Research Fellow, AIMSS/Harvard University	Integrative Lipidomics to Understand Lipotoxicity in Fat-Bone-Muscle Communication	
16:55	Abstracts Presentations, Researcher presentations from AIMSS/Neuroscience	AIMSS, VU, UoM MSK abstracts and additional research presenters, and Neuroscience abstracts awards	
17: 30 -17:40	Director of AIMSS /Q&A / End of Symposium & Closing Remarks	Prof Alan Hayes (TBC) Poster Presentations available at the foyer area.	
17.45pm	Networking session (TBC)	TBC	

About our invited key note speakers and other presenters:

Session 1 - Discovery to Impact: Advancing Translational Research for Lifelong Health - Addressing the Challenges of Ageing, Chronic Disease, and Complex Health Conditions.

Professor Dr Lynda Bonewald, Director, Indiana Centre for Musculoskeletal Health, Indiana, United States



Topic: Sex Specific Effects by Factors Responsible for Muscle/Bone Crosstalk

Dr. Bonewald is a UM Curators Professor Emeritus, an IU Distinguished Professor and an AAAS Fellow. She is also the Founding Director of the Indiana Center for Musculoskeletal Health, ICMH, with over 100 members from 27 schools and four campuses. She received her Ph.D. in Immunology/Microbiology from the Medical University of South Carolina, was promoted from Assistant to Full Professor at the Univ. of Texas Health Science Center at San Antonio and served as director of the Bone Biology Research Program and as Vice Chancellor for Research at the University of Missouri-Kansas City. She is a Past-President of the American Society for Bone and Mineral Research and the Association of Biomolecular Resource Facilities. She has served as Chair of the Board of Scientific Councillors for the NIH NIDCR and served on Council for NIH NIAMS. She received the IADR "Basic Research in Biological Mineralization Award", the Sun Valley "RIB Award", the prestigious ASBMR William F. Neuman and Louis V. Avioli awards. She has been funded by NIH for over thirty years and is best known for her work in the study of osteocytes and is responsible for tools such as osteocyte cell lines and Cre mouse models used by researchers globally to determine osteocyte biology and function. She is currently studying bone and muscle crosstalk with aging. Her work has been cited over 50,000 times and her h-index is 120. She ranks among the world's top 1000 cited female scientists.

A/Prof Dr Diana Carlone, Harvard Medical School, United States



Topic: Defining the actions of Cfp1, an epigenetic regulator that drives bone and cartilage development

Diana L Carlone received her BSc at the University of Connecticut and completed a PhD in Cell, Molecular and Developmental Biology at the Graduate School of Biomedical Sciences, Tufts University. She studied epigenetic regulation of embryonic stem cells at Herman B Wells Center for Paediatric Research, Indiana University and is now an Assistant Professor of Paediatrics at Boston Children's Hospital/Harvard Medical School. Her work focuses on identifying the factors that regulate self-renewal and differentiation of progenitor/stem cells in the skeleton. Using gene deletion studies, she has recently identified the epigenetic factor, CXXC finger protein 1 (Cfp1), as a critical regulator of chondrocyte and osteoblast differentiation in the developing skeleton. Current projects focus on deciphering Cfp1 action in regulating chromatin state, transcription factor expression and activity, and cell signalling to drive differentiation and rescue skeletal defects.

Session 2: Robert Helme Neuroscience Symposium: Brain Health, Neuromuscular and Degenerative Diseases

Session 3: From Hospital to Community: Frontline Clinical Experiences in Musculoskeletal Care of Senior Citizens

1) Dr Mizhgan Fatima, Geriatrician, Western Health, AIMSS FFC Clinic, Geriatrician, Western Health, Melbourne

Topic: Bone-Muscle interactions and Frailty: Recognising musculoskeletal pathway to frailty in older people

Dr. Mizhgan Fatima is a Consultant Geriatrician at Western Health, Melbourne, specialising in the comprehensive care of older adults with complex health needs. With a strong clinical and academic background, Dr. Fatima's work focuses on promoting healthy ageing, improving functional outcomes, and advancing multidisciplinary approaches in the management of frailty, musculoskeletal health, and neurodegenerative diseases.

Her commitment to patient-centred care and evidence-based practice underpins her contributions to ongoing research and service development aimed at enhancing quality of life for ageing populations.

2) Dr Steven Lu, MBBS (hons), DCH, FRACGP, Cofounder/CMO Everlab, Australia



Topic: Musculoskeletal care and longevity prevention strategies

Dr. Steven Lu is a medical doctor and longevity health entrepreneur with over 15 years' clinical experience, specialising in preventative and personalised medicine. He founded **Everlab** in 2023 to democratise early disease detection and health optimisation, combining advanced diagnostics, AI-driven insights, and tailored care.

His vision is to shift healthcare from reactive “sick care” to proactive, data-driven prevention. At Everlab, Dr. Lu leads clinical strategy and innovation, working across diagnostics, biomarker analysis, and health monitoring to uncover hidden risks before symptoms manifest. Beyond his work in industry, he is also a medical educator and advocate for preventative health models in Australia. AIMSS is honoured to have Dr Steven Lu as one of the Primary Care Ambassador for Health for his exemplary leadership in advancing preventive medicine, early diagnostics, and patient-centred primary care.

3) Dr Louise Heyzer, MBBS(UK), MRCP(UK), MMed (Int Med), Geriatrician, Woodlands Health, Singapore



Topic: From fractures to Frailty: The Complexities of Tackling Osteosarcopenia

Dr. Louise Heyzer is a consultant geriatrician affiliated with Woodlands Health Campus in Singapore and active in clinical education with NUS Yong Loo Lin School of Medicine and LKCMedicine. Her clinical interests include **orthogeriatrics, falls management**, and optimizing care for older adults through comprehensive, patient-centred approaches. She contributes to teaching and training in geriatrics and helps shape clinical education in the region.

4) A/Prof Frederick Koh, MBBS, MMed (surg), FRCSEd, PhD, FAMS (surg), FACS Consultant Surgeon, PI SingHealth Duke-NUS Muscle Health Programme, Singapore.

Topic: From fractures to Frailty: The Complexities of Tackling Osteosarcopenia



Assoc Prof Koh leads the SingHealth Duke-NUS Muscle Health Programme and serves as Principal Investigator at the SKH Musculoskeletal Regenerative Laboratories. His clinical expertise spans colorectal surgical oncology, surgical nutrition, and prehabilitation.

He holds a PhD focused on **sarcopenia in surgical patients** and is actively engaged in integrating **AI, digital health, and regenerative strategies** into surgical care. A dedicated educator and researcher, he has received awards for teaching excellence and involved in mentoring future clinicians and scientists.

5) Dr Koshala Rupassara, MBBS(SL), MRCS(UK), MRCGP(UK), FRACGP (AUS), Aspendale Garden Medical Centre



Topic: Holistic approach to sarcopenia in primary care

Dr. Koshala Rupassara is an experienced General Practitioner (GP) currently practicing at Aspendale Gardens Medical Centre. He has a diverse medical background and extensive international experience. After graduating with an MBBS from the University of Peradeniya in 1997, Dr. Rupassara worked at Colombo South Teaching Hospital in Sri Lanka. In 2000, he moved to the United Kingdom, where he completed his surgical training and obtained the prestigious Member of the Royal College of Surgeons (MRCS) qualification in Edinburgh. He also gained valuable experience as a senior registrar in Accident & Emergency, where he worked for five years.

Dr. Rupassara's passion for general practice led him to complete further training in the UK, earning his MRCGP in 2012. Following two years of clinical work in the UK, he relocated to

Australia, where he now specializes in general practice with a focus on minor surgical procedures, brain health, skin cancer, and musculoskeletal conditions.



Session 4: AIMSS Annual Keynotes, Researcher presentations, and Abstract Presentations from AIMSS and Neuroscience Teams

1) Associate Professor Nicole Stupka, Principal Research Fellow, Institute for Health and Sport (IHeS), Program Director, AIMSS-Western Health



Topic: Targeting the matrix to improve skeletal muscle health from the outside in.

A/Prof Nicole Stupka is an experienced biomedical scientist who consistently delivers high impact outcomes in musculoskeletal physiology and cell biology to the pharmaceutical industry and translational medicine. She is highly experienced in initiating and leading multidisciplinary pre-clinical collaborations across academia and industry to meet diverse stakeholder needs. Her track record includes comprehensive publication and teaching portfolios in skeletal muscle, exercise science, and the cardiovascular and respiratory pathophysiology.

Relevant to her presentation at the AIMSS Symposium, Dr Stupka's team identified the importance of Adamts5 - an extracellular matrix enzyme - in mediating the interdependence between the immune system and the downstream implications for skeletal muscle pathology and contractile function. Her team has completed comprehensive preclinical testing of pharmaceutical industry developed Adamts5 inhibitors in mouse models of muscular dystrophy. Adamts5 inhibition decreased inflammation and fibrosis resulting in improved dystrophic muscle function, and this established the therapeutic potential of targeting a dysregulated provisional matrix in muscle disease. This work was recently published in *Science Translational Medicine*.

2) Prof Vasso Apostolopoulos, AM, Distinguished Professor of Immunology, Director Centre for Healthy Lifespan and Chronic Diseases, RMIT University, Program Director of AIMSS,



Topic: Improving Health Longevity

Prof. Apostolopoulos is a globally recognised immunologist whose multidisciplinary work spans vaccine development, medicinal chemistry, structural biology, and translational research. She has led pioneering immunotherapies—most notably advancing a breast/ovarian cancer vaccine into human trials—and applied immunological strategies to diseases including MS, diabetes, autoimmunity, and chronic conditions.

A prolific scholar, she has published over 500 articles, holds 20+ patents, and has mentored numerous trainees. Her current role encompasses leading the Immunology & Translational Research Group and championing healthy aging, immunotherapy, and vaccine innovation.

In recognition of her contributions, she was recently awarded the **Prix Galien for Scientific Research** in Athens. Prof Vasso Apostolopoulos was awarded the **Member of the Order of Australia (AM)** in the **2025 King's Birthday Honours**.

3) Dr Ahmed Al Saedi, Research Fellow, AIMSS/Harvard University

Topic: Integrative Lipidomics to Understand Lipotoxicity in Fat-Bone-Muscle Communication



Dr. Ahmed Al Saedi is a bone biologist whose research centres on the role of ectopic fat in age-related musculoskeletal disorders, particularly osteoporosis, and the intricate crosstalk between fat, bone, and muscle. He earned his M.Phil. in Medicine from the University of Sydney and his Ph.D. from the University of Melbourne, where he explored the role of circulating osteogenic precursor (COP) cells in bone biology and aging. After completing his Ph.D., he undertook postdoctoral training at the Australian Institute for Musculoskeletal Science (AIMSS), investigating how cellular senescence alters mesenchymal stem cell differentiation toward an adipogenic profile, contributing to bone lipotoxicity and fragility. In 2022, Dr. Al Saedi joined Harvard Medical School and Boston Children's Hospital, where he studied epigenetic regulation of bone and cartilage development using knockout mouse models. He has authored 36 publications (14 as first author) and three book chapters, served as a co-investigator on an Australian MRFF grant, and received several prestigious awards, including the AgNovos Young Investigator Award, multiple ASBMR Young Investigator Awards, and the Harold Frost Award. Dr. Al Saedi has recently relocated back to Melbourne, where he continues to serve as a Project Director at AIMSS and as a sessional lecturer at Victoria University.

Symposium Academic and Clinician Program Directors:

Prof. Alan Hayes, PhD



Acting Director, AIMSS & Professor, Victoria University –
Institute for Health & Sport (IHES)

Prof. Hayes is a renowned muscle and exercise physiologist whose career spans basic science, translational research and clinical collaboration. He holds a BSc (Hons) and PhD from the University of Melbourne, where his early research explored exercise and therapeutic strategies in models of muscular dystrophy.

Since joining Victoria University in 1997, he has expanded his research to include **sarcopenia, muscle wasting in ageing, and nutritional & pharmacological interventions** to preserve muscle function. He was pivotal in creating a tri-institutional research partnership among VU, Western Health, and the University of Melbourne, co-locating basic science and clinical trials at the WCHRE campus.

Prof. Hayes' current research focuses on repurposing drugs for muscle diseases, understanding risk factors driving loss of bone and muscle mass, and developing preventive and therapeutic strategies to enhance healthy ageing. He also contributes to national efforts to embed physiology into higher education curricula.

Prof. Tissa Wijeratne, OAM, MD, PhD, FRACP

Chair & Director, Department of Neurology & Stroke Services, Western Health, Melbourne,
Program Director, AIMSS.



Prof. Wijeratne is an internationally recognized neurologist, clinician-scientist, educator, and global brain health advocate. He leads neurology and stroke services at Western Health while holding academic appointments at the University of Melbourne, La Trobe University, Victoria University, RMIT, and the University of Rajarata (Sri Lanka).

He has played substantial leadership roles within the **World Federation of Neurology (WFN)**, including serving as an elected Trustee and Co-Chair of **World Brain Day**, and contesting for the position of First Vice President of the WFN. His global advocacy focuses on driving awareness, education, equity, and research in brain health—especially in under-resourced regions.

In headache and migraine medicine, Prof. Wijeratne has chaired the Special Interest Group on Headaches and Migraines for WFN and served in leadership roles in the International Headache Society. He was honoured with the **Ted Munsat Award** by the WFN in recognition of his contributions to global neurological education and advocacy.

His research spans migraine/headache, stroke, post-COVID neurological syndromes, and the intersection of neurology with musculoskeletal health.

Beyond his clinical and academic roles, he has supervised hundreds of physician trainees, mentored numerous PhD candidates, and led multiple “train-the-trainer” programs in neurology and medical education across continents.

Prof. Wijeratne continues to bridge local care with global vision—applying lessons from diverse communities to inform neurological care, policy, and education worldwide.

In recognition of his contributions, he was awarded the **Order of Australia Medal (OAM)** in 2023.

Acknowledgement: Western Health, University of Melbourne & Victoria University acknowledge the Traditional Custodians of the lands on which Western Health and Western Medicine School operates — the **Wurundjeri Woi-wurrung, Boon Wurrung, Bunurong and Wadawurrung Peoples** of the greater Kulin Nation — and pay respect to their Elders, past, present and emerging. We recognise Aboriginal and Torres Strait Islander peoples as Australia’s First Peoples, and honour their ongoing connection to land, waters, culture and community. We commit to cultural safety, respect, equity, and a path toward reconciliation.

Thanks to our sponsors. Please meet them at the foyer area if they are present on the day.

Registration Links: Please register to attend the symposium venue through Eventbrite link below, or register for the zoom webinar.



QR Code 1-Register at zoom webinar portal to get the Zoom webinar link.

Monday, 20th of October 2025, 9:00 – 5:30pm Annual AIMSS Research Symposium – AIMSSNR 2025.

Hybrid Delivery, WCHRE building and webinar. (Please follow directions at 1F) @WCHRE, Western Hospital, Sunshine Campus, Victoria, Australia



QR Code 2-Register at Eventbrite to attend the Auditorium on the Symposium Day.

Eventbrite link : <https://www.eventbrite.com.au/e/western-health-aimss-robert-helme-neuroscience-research-symposium-2025-tickets-1799262315019?utm-campaign=social&utm-content=attendeeshare&utm-medium=discovery&utm-term=listing&utm-source=cp&aff=ebdsshcopyurl>

Zoom Webinar registration link: https://unimelb.zoom.us/webinar/register/WN_3LwCgLTsQ4O_SvpGZHO2pg

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