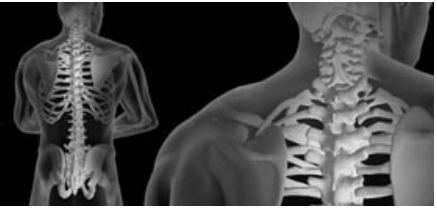




**Australian & New Zealand
Orthopaedic Research Society**



ANZORS 28th Annual Scientific Meeting

4-7 December 2023

Short Program *(updated on 02.12.2023)*



**General Library, Lecture Theatre 109-B15, Basement
University of Auckland,
Princes Street, Auckland CBD, Auckland 1010, New Zealand**

Monday, December 4

18:00

Welcome Reception

at [Old Government House](#), 24 Princes Street, Auckland CBD, Auckland 1010, New Zealand
4 min walk from Conference Venue

Map: [Google maps](#)

**Tuesday, December 5 - Lecture Theatre 109-B15, Basement,
General Library, University of Auckland,
Princes Street, Auckland CBD, Auckland 1010, New Zealand**

07:30-08:25	Women's Breakfast at Strata Cafe, Level 4, Kate Edger Building, Univ. of Auckland, 1 min walk from Conf Venue Google maps		
08:00-08:30	Coffee and registration		
08:30-08:45	ANZORS President's welcome: A/Prof Nathan Pavlos		
08:45-09:15 Session chair: A/Prof Nathan Pavlos	Plenary: Prof Mary Goldring, Emeritus Senior Scientist, Hospital for Special Surgery, New York, USA "Biomarkers of Osteoarthritis and Implications for Therapy"		
09:15-10:15	Name	Surname	Abstract title
Podium 1 Session chairs: Dr Stephanie Khuu, Prof Ashvin Thambyah	Laura	Wilson	Identifying at risk morphotypes in patellofemoral osteoarthritis: a comparison of patella shape in males and females
	Eleonora	Olivotto	Calcium crystals detection in synovial fluid of patients with femoroacetabular impingement and correlation with clinical outcomes
	Dominic	Thewlis	A single intraarticular dose of a novel interleukin 10-based therapy improves knee function in people with knee osteoarthritis during walking gait
	Pholpat	Durongbhan	Imaging protocol for longitudinal assessment of structural changes in mouse knees
	Aswini	Madhavan	Spinal cord-on-a-chip: a novel microfluidic model to investigate neurological cell responses to spinal implant wear particles
10:15-10:55 Morning coffee & tea; Foyer, Basement, General Library			
10:55-11:55	Name	Surname	Abstract title
Podium 2 Session chairs: Dr Vickie Shim, A/Prof Peter Smitham	Lauren S	Wearne	Assessing the initial mechanical environment of cadaveric tibiae with cementless tibial trays during stair descent and deep knee bend
	Julius	Dohm	Determining wear of an advanced Zrn multilayer coating total knee system manufactured out of titanium under highly demanding activities
	Sarah	Safavi	Optimised porous femoral stem design to reduce stress shielding
	Bogdan	Solomon	Hip implants with evidence of phased introduction have improved survivorship at long term follow-up
	Tom	Ward	Resecting tissue from the 'impingement point' improves range of motion prior to dislocation in total hip replacement surgery
11:55-13:10 Lunch & poster viewing (poster viewing will take place between 12:40-13:10) Foyer, Basement, General Library			
13:10-13:40 Session chair: Prof David Findlay	Plenary: Prof Steven Goldring, Research Chair, Hospital for Special Surgery, New York, USA "Osteoarthritis, A "whole" joint disease"		
13:40-14:28	Name	Surname	Abstract title
Minghao Zheng Orthopaedic Innovation Award Final Session chairs: Prof Steven Goldring, Dr Jiao Jiao Li	Parham	Foroutan	Development and validation of a biomechanically fidelic surgical training knee model
	Megan	Roser	Correlation analysis of vertebral body wedge angles and intervertebral disc wedge angles with major coronal curve angle after vertebral body tethering - a pilot study
	Javad	Tavakoli	An innovative technology reveals new findings: initial cell density matters for the regeneration of intervertebral disc
	Peter	Smitham	A cadaveric study investigating a pinless, image-free navigation system for the insertion of acetabular cups during the anterior hip approach
14:28-15:20 Afternoon coffee & tea and poster viewing; (poster viewing will take place between 14:50-15:20) Foyer, Basement, General Library			
15:20-16:32	Name	Surname	Abstract title
Podium 4 Session chairs: Dr Nikki Hooper, A/Prof Justin Fernandez	Anubrat	Kumar	Can post-neonatal clinical and sonographic screening parameters effectively predict hip dysplasia in children at their walking age?
	Sarah	Hunter	Ten year review of acute paediatric hematogenous osteomyelitis at a New Zealand tertiary referral centre
	Saulo	Martelli	Neuromuscular constraints of the knee contact force while walking
	Manuela	Zimmer	Non-invasive mechanical characterization of plantar flexor muscles using shear wave elastography
	Randika	Perera	Probing muscle-fascia interaction in the lower limb with advanced MRI and finite element modelling
	Yilan	Zhang	Anatomical information on the internal aponeurosis is needed for realistic subscapularis fascicle length measurements from diffusion tensor imaging

18:00-

Young Investigators Event

Honours/Masters/PhD students and ECRs get free meal; must have indicated attendance during registration

at [Superfino](#), Owen G Glenn Building, Univ. of Auckland (v/gf available),
2 min walk from Conference Venue

Map: [Google maps](#)

**Wednesday, December 6 - Lecture Theatre 109-B15, Basement,
General Library, University of Auckland,
Princes Street, Auckland CBD, Auckland 1010, New Zealand**

08:00-08:15	Coffee & tea		
08:15-09:15	Name	Surname	Abstract title
David Findlay ECR Award Final Session chairs: Prof Mary Goldring, Dr Javad Tavakoli	Hui Jean	Kok	Increased bone formation from isolated isometric contraction in mice
	Maxence	Lavaill	Benchmark and validation of state-of-the-art muscle recruitment strategies in shoulder modelling
	John	Abrahams	Acetabular component stability using the replace-in-situ philosophy to treat acute acetabular fractures
	Stephanie	Khuu	Multi-cell modelling of the skeletal muscle microenvironment to explore age-related changes in satellite cell dynamics
	Harnoor	Saini	Classification of glenoid wear using statistical shape modelling
09:15-09:45	Keynote: A/Prof Paul Monk, Orthopaedic surgeon, University of Auckland, NZ “Bioengineering in Orthopaedics: Innovation and Evaluation”		
Session chair: Prof David Lloyd	9:45-10:15 Morning coffee & tea; Foyer, Basement, General Library		
10:15-11:15	Name	Surname	Abstract title
PhD Award Final Session chairs: Prof David Ackland, Ms Lauren Wearne	Reece	Joseph	Translating the in vitro anti-biofilm potential of bovine lactoferrin to applications as an in vivo anti-infective in battlefield-relevant open fractures
	Jo-Wai Douglas	Wang	Association of ABO blood group and rhesus factor with fracture type, comorbidities and outcomes in patients with hip fracture
	Tyra	Lange	Breached and non-breached screw trajectories sound and feel differently
	Yichen	Huang	A virtual clinical trials framework for evaluating glenoid component fixation after reverse total shoulder arthroplasty
	Daniela	Mini	Bone strain field prediction via graph neural network for a proximal humeral plate
11:15-12:15	ANZORS AGM All delegates welcome and encouraged to attend		
12:30-17:00	Half day Networking Event (bus transport provided; return back in Auckland by 17:00) Pickup at 12:30 pm, in front of Conference Venue Goldie Estate , Waiheke Island, New Zealand		
19:00-	Conference Dinner in the city, including Awards Announcements The Maritime Room , Princes Wharf, Auckland CBD, Auckland 1010, New Zealand Map: Google maps		

**Thursday, December 7 - Lecture Theatre 109-B15, Basement,
General Library, University of Auckland,
Princes Street, Auckland CBD, Auckland 1010, New Zealand**

08:15-09:00	Coffee & tea; Foyer, Basement, General Library		
09:00-10:00	Name	Surname	Abstract title
Podium 5 Session chairs: Dr Dale Robinson, Dr Maxence Lavaill	Zhou	Fang	The use of inertial measurement units and computational modelling in the estimation of shoulder joint forces
	François	Bruyer-Montéléone	Shoulder morphologic variation: statistical shape and pose approaches
	David	Ackland	The influence of glenoid bone grafting using the Latarjet procedure on glenohumeral joint contact loading
	Dermot	O'Rourke	Failure of inlay and onlay humeral components in reverse shoulder arthroplasty: a micro-CT study
	Sarah	Woodford	Jaw joint loading during biting following total temporomandibular joint replacement surgery
10:00-10:30 Session chair: Dr Martina Barzan	Keynote: Dr Nikki Hooper, Paediatric orthopaedic surgeon, University of Otago, NZ “Improving Outcomes in Hip Dysplasia”		
10:30-11:25 Morning coffee, tea & poster viewing (poster viewing will take place between 10:55-11:25) Foyer, Basement, General Library			
11:25-12:13	Name	Surname	Abstract title
Podium 6 Session chairs: Dr Julie Choisne, A/Prof Dominic Thewlis	Geoffrey	Handsfield	Detecting changes to muscle architecture over time with shape and growth modelling in cerebral palsy
	Yidan	Xu	Development of a lower-limb statistical bone density model in children aged 4 to 18 years old
	Praveen	Krishna	Lower limb joint strategies used to negotiate obstacles in young and older adults
	Katherine	Nguyen	Shape modelling reveals age-related knee bony shape changes in asymptomatic knees
12:13-13:25 Lunch & poster viewing (poster viewing will take place between 12:55-13:25) Foyer, Basement, General Library			
13:25-13:55 Session chair: A/Prof Sue McGlashan	Keynote: Prof Haxby Abbott, Director of Osteoarthritis Aotearoa NZ Research Network, University of Otago, NZ “The Diagnosis and Management of Osteoarthritis in Aotearoa New Zealand”		
13:55-14:55	Name	Surname	Abstract title
Podium 7 Session chairs: Prof Haxby Abbott, Dr Francesca Bucci	Justin	Fernandez	IMU-augmented patient reported outcome measures for estimating post-operative patient satisfaction
	Simon	Thwaites	Tibial nailing patients exhibit functional deficits up to 18 months follow-up compared to healthy controls: a prospective randomised controlled pilot study
	Stuart	Callary	Does manufacturing method, patient age or articulation size affect the long-term wear rate of highly cross-linked polyethylene liners in total hip arthroplasty?
	Joe	Lynch	Kinematics are an indicator of outcome after total knee replacement
	Octavian	Andronic	Outcomes of secondary patella resurfacing for dissatisfaction following primary knee arthroplasty: a systematic review and meta-analysis of 604 knees
14:55-15:30 Afternoon coffee & tea; Foyer, Basement, General Library			
15:30-16:18	Name	Surname	Abstract title
Podium 8 Session chairs: Prof Syn Schmitt	Vonne	van Heeswijk	Modes of failure in flexed ovine lumbar motion segments subjected to impact loading
	Sara	Montanari	Biomechanical effect of decompressive techniques on lumbar spine
	Yihang	Yu	Influence of the lumbar endplate and cage related factors on cage-endplate contact: a cadaveric study
	Nathan	Pavlos	Characterisation of the secretory lysosome proteome reveals new regulators of osteoclast function and endolysosomal homeostasis
16:18-16:30	President's closing address		

**POSTERS presented on
Tuesday, December 5
Foyer, Basement, General Library, University of Auckland,
Princes Street, Auckland CBD, Auckland 1010, New Zealand**

12:40-13:10		Lunch break	
14:50-15:20		Afternoon break	
Poster #	First name	Surname	Abstract title
1	Ashwini	Madhavan	Development of a 3D bioprinted model to investigate neural cell responses to wear debris from spinal instrumentation and devices
2	Yichen	Huang	The effect of rotator cuff tears and glenoid version on glenohumeral joint stability after reverse total shoulder arthroplasty
3	Lauren S	Wearne	Variation in interference fit of cementless tibial trays and its effect on post-implantation strain field: a micro-CT and digital volume correlation analysis
4	Ryan	Tiew	Experimental validation of a cadaveric femur fitted with an osseointegrated implant
5	Sara	Montanari	In vitro testing of osseointegrated transfemoral prostheses: implant stability and load transfer
6	Mohammadreza	Arjmandi	Investigating cartilage mechanics across the length scales
7	Julie	Choisne	Understanding the variation of bone mineral density in the femur and tibia in children aged 4 to 18 years old
8	Natali	Uribe	Bone shape, density distribution, and microstructural organization in adult people
9	Emma	Boersma	Towards in vivo image-guided mechanical evaluation of the murine knee joint
10	Alexander	Lee-Medland	Developing and validating a novel micro-CT based technique for measuring bone mineral density distribution
11	Sarah	Hunter	Quality of life for children up to 13 years following treatment for acute haematogenous osteomyelitis
12	James	Bilbrough	Does elastographic tendon stiffness predict return to work and sport after primary rotator cuff repair?
13	Sarah	Hunter	Early CRP trends in childhood osteomyelitis predict complicated disease
14	Joyce	Guo	Outcomes of an augmented reality paediatric supracondylar humeral fracture simulator
15	Bogdan	Solomon	Virtual biomechanical assessment of custom triflange and porous tantalum components to treat severe acetabular defects with pelvic discontinuity
16	Sarah	Hunter	Appropriate antibiotic duration in paediatric bone and joint infection: a systematic review

Please see next page for posters presented on Thursday.

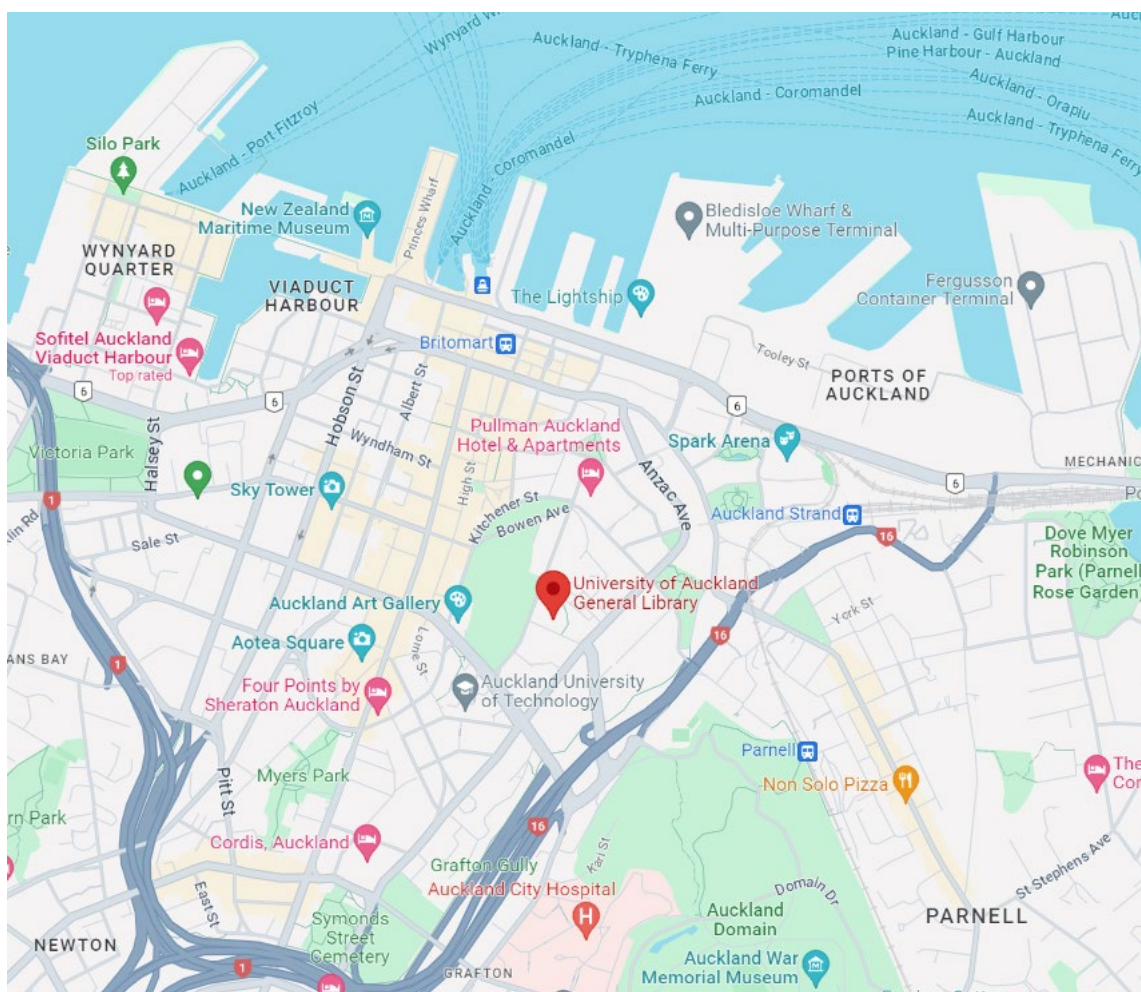
**POSTERS presented on
Thursday, December 7
Foyer, Basement, General Library, University of Auckland,
Princes Street, Auckland CBD, Auckland 1010, New Zealand**

10:40-11:10		Morning break	
12:55-13:25		Lunch break	
Poster #	First name	Surname	Abstract title
17	Joe	Lynch	Systematic review and meta-analysis of patellar morphometric differences between males and females
18	Alessia	Funaro	Patient-specific 3D models to investigate the effect of twisted structure of the Achilles tendon on strain distribution
19	David	Musson	Incidence and economic burden of Achilles tendon injuries in Aotearoa New Zealand between 2010 and 2018
20	Francesca	Bucci	Tibiofemoral elasticity during gait: a musculoskeletal modelling study of compliance
21	Filiz	Ates	Intraoperative force measurements to support the decision-making in muscle-tendon lengthening surgeries
22	Salindi	Herath	Effect of scaling on HKA angle in preoperative total knee replacement patients
23	Mélody	Labrune	Study of human shoulder biomechanics using computational modelling
24	Saulo	Martelli	A finite element model for evaluating graft stability in Latarjet surgery under varied fixation techniques
25	Saulo	Martelli	An efficient method to predict hip fragility fractures in statistical synthetic cohorts
26	Julie	Kim	Bone-remodelling in the foot: application to exercise during the COVID-19 lockdown
27	Octavian	Andronic	High loosening rates and inferior patient-reported outcomes of the cementless tibial base plate in a modern design of total knee arthroplasty
28	Xingjian	Gong	Potential therapeutic targets of arthrofibrosis following knee arthroplasty
29	Sarah	Nossov	Preferences and priorities for decision making in congenital femoral deficiency (CFD): a stated preference survey of patients, caregivers, and clinicians
30	Nicolo'	Malagutti	An automatic two-stage knee alignment pipeline of human lower-limb X-rays by convolutional neural network
31	Syn	Schmitt	Comparison of load-sharing and axis of rotation in generic and individualised neuro-musculoskeletal models of the spine

All posters will be displayed for the whole duration of the conference and presented on either Tuesday or Thursday by the author as indicated.

Venue

**General Library,
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University of Auckland,
Princes Street, Auckland CBD, Auckland 1010, New Zealand**



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