



**Australian & New Zealand  
Orthopaedic Research Society**



## **ANZORS 25<sup>th</sup> Annual Scientific Meeting**

**04-06 October 2019**

**Short Program** *(updated on 02.10.2019)*



**The John Curtin School of Medical Research (JCSMR),  
Australian National University (ANU),  
131 Garran Rd, Acton ACT 2601, Australia.**

# Day 1 (Friday October 04)

Finkel Lecture Theatre, ground floor, The John Curtin School of Medical Research,  
ANU, 131 Garran Rd, Acton ACT

08:00-08:25	Coffee and registration		
08:25-08:30 08:30-08:45	Welcome: Prof Klaus-Martin Schulte, Chair of Surgery, ANU College of Health and Medicine ANZORS President's welcome: Dr Egon Perilli		
08:45-09:15 Session Sponsor: ANU Session chair: Prof Jiake Xu	Keynote: Prof Linda Sandell, Washington University School of Medicine, St. Louis, MO, USA "Genetic Correlations between Cartilage Regeneration and Degeneration Reveal an Inverse Relationship"		
09:15-10:15	First name	Surname	Abstract title
Podium 1  Session chair: A/Prof Tania Crotti	Jiake	Xu	New insights into the role of Methionine 199 in the function of Receptor Activator of Nuclear Factor Kappa-B Ligand (RANKL) and bone homeostasis
	Youshui	Gao	Dual effects of miR-136-3p on osteogenesis and angiogenesis to alleviate alcohol-associated osteoporosis via targeting PTEN pathway
	Catherine	Stapledon	A novel investigation into the effects of the Amyloid Precursor Protein on the Osteocyte
	Megan	Thomas	Chondrocyte response to focal unloading in vivo: a differential interference contrast study
	Jun	Yuan	Mitophagy regulates glucocorticoid-induced osteocytic osteolysis
10:15-10:55 Morning coffee & tea; foyer, ground floor, The John Curtin School of Medical Research			
10:55-12:07	First name	Surname	Abstract title
Podium 2  Session chair: Dr Dzenita Muratovic	Kai	Chen	Reactive oxygen species enhances osteoclast activity in steroid-induced osteonecrosis of femoral head
	Jacob	Kenny	Utilising the collaborative cross to investigate genes associated with osteoarthritis progression in mice and humans
	Minhao	Gao	Two types of osteocytes depending on the process of ossification
	Mohammadh ossein	Hassansha hi	Icariin attenuates methotrexate chemotherapy-induced bone loss and bone marrow micro-vascular damage in rats
	Peilin	Chen	Compromised cell function and extracellular matrix degeneration in loading-deprived tendon
	Meredith	Harrison-Brown	Limited penetration of cobalt and chromium into the cerebrospinal fluid following metal-on-metal arthroplasty: a cross sectional analysis
12:07-13:20 Lunch & poster viewing (poster viewing will take place between 12:30-13:20) Foyer, ground floor, The John Curtin School of Medical Research			
13:20-13:50  Session chair: Dr Dané Dabirrahmani	Keynote: A/Prof Tasha Stanton, University of South Australia, Adelaide SA, Australia "Osteoarthritis is all about the joint -or is it? Considering new insights from pain neuroscience"		
13:50-14:50	First name	Surname	Abstract title
Podium 3  Session chair: A/Prof Ashvin Thambyah	Delin	Liu	The expression of DMP1 in mouse central nervous system
	Jiao Jiao	Li	Stem cell therapy for osteoarthritis - Does it work?
	Wassif	Kabir	Functional mechanical testing of native human knee articular cartilage
	Michael	Russo	Lumbar disc herniation failure after multiaxial fatigue
	David	Ackland	Hip abductor muscle volumes are smaller in individuals affected by patellofemoral joint osteoarthritis
14:50-15:30 Afternoon coffee & tea and poster viewing; foyer, ground floor, The John Curtin School of Medical Research			
15:30-16:42	First name	Surname	Abstract title
Podium 4  Session chair: Prof Rick Sumner  *: Orthopaedic Innovation finalist	Rami	Al-Dirini	Computational efficient method for assessing the influence of surgical variability on primary stability of a contemporary femoral stem in a cohort of subjects
	* Martina	Barzan	Virtual planning and personalised cutting guides for juvenile femoral osteotomies
	* Cheryl	Lee	Biofabrication of human articular cartilage: analysis of genotoxicity, cytotoxicity and chondrogenesis
	* Sam	Francis	Rapid isolation of mesenchymal stem cells to treat clinically significant cartilage defects in one surgical biofabrication procedure
	Joseph	Cadman	A biomechanical comparison of ultra fast-fix and pullout sutures for posterior medial meniscal root tears
	Matthew	Evans	Acromioclavicular joint stabilisation: a biomechanical study of bidirectional stability and strength

18:00-

**Young Investigators Pub-dinner**

Strictly Masters/PhD students only; free meal; must have indicated attendance during registration

at [King O'Malley's Pub](#) (v/gf available), 131 City Walk, Canberra, ACT 2601;  
20 min walk from Conference Venue

Map: [googlemap](#)

# Day 2 (Saturday October 05)

Finkel Lecture Theatre, ground floor, The John Curtin School of Medical Research,  
ANU, 131 Garran Rd, Acton ACT

08:00-08:15	Coffee & tea		
08:15-09:15	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>David Findlay ECR Award Final,</b>  Session chairs: Dr Junjie Gao, Dr Diana Perriman  <b>*: Orthopaedic Innovation finalist</b>	* Young J	No	Effect of Baghdadite substitution on the properties of Brushite cement
	Fatemeh	Malekipur	Spatial distribution of strain in equine distal metacarpal subchondral bone: a microCT-based finite element model
	Dale	Robinson	The application of acoustic emission in the detection of vertebral body fracture
	Renee	Ormsby	Evidence for gender-specific bone loss mechanisms in periprosthetic osteolysis
	* Dzenita	Muratovic	Knee osteoarthritis: presence of bone marrow lesions in subchondral bone indicates increased number and thickness of plate like trabeculae
09:15-09:45	<b>Keynote: Prof Rick Sumner, Rush University Medical Center, Chicago, Illinois, USA</b>  <b>“Bone regeneration and implant fixation”</b>		
<b>9:45-10:15</b> Morning coffee & tea; foyer, ground floor, The John Curtin School of Medical Research			
10:15-11:15	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>PhD Award Final,</b>  Session chairs: Prof Linda Sandell, A/Prof Nathan Pavlos	Jasvir	Bahl	Changes to the hip contact force loading profile following total hip arthroplasty
	Kieran	Bennett	Longitudinal postoperative joint kinematics of tibial plateau fracture patients
	Sophie	Rapagna	Influence of joint alignment in tibial OA vs. controls: cartilage, cortical subchondral bone plate and trabecular bone
	Florence	Lees	Assessment of inflammation, glial cell population and pain-like behaviour in a collagen antibody-induced arthritis mouse model following treatment with Parthenolide
	Xin	Zhang	Effects of ligament sectioning and reconstruction on scapholunate motion during active wrist flexion and extension: a bi-plane X-ray fluoroscopy study
11:15-12:15	<b>ANZORS AGM</b>  <b>All delegates welcome (and encouraged) to attend</b>		
12:30-17:00	<b>Half day Networking Event.</b> (bus transport provided; return back in Canberra by 17:00) <b>Pickup: at 12:30 pm, in front of Conference Venue (131 Garran Rd, Acton, ACT 2601)</b>  <a href="#">The National Arboretum Canberra - The Margaret Withlam Pavillon</a> , Canberra, ACT.		
19:00-	<b>Conference Dinner in the city in historic venue, includes Awards Announcements</b>  Restaurant <a href="#">The Old Parliament House</a> , 18 King George Terrace, Parkes ACT 2600.  Map: <a href="#">googlemap</a>		

# Day 3 (Sunday October 06)

Finkel Lecture Theatre, ground floor, The John Curtin School of Medical Research, ANU, 131 Garran Rd, Acton ACT

08:15-08:45	Coffee & tea; foyer, ground floor, The John Curtin School of Medical Research		
08:45-9:45	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>Podium 5</b>  Session chair: Dr Dale Robinson	Shaktivesh	Shaktivesh	Fatigue testing of equine MCII subchondral bone under a simulated training program
	Ali	Entezari	The key role of mechanical stimulation in regeneration of critical-sized bone defects
	Thomas	Grace	The development and reliability of a semi-automated method to split the acetabulum into clinically relevant regions of interest
	Francesca	Bucci	The effect of surgical displacement of the hip joint center on peri-acetabular bone strain and hip contact force while walking: an in-silico examination of a THR patient
	Lianzhi	Chen	Horizontal crack in interface of osteochondral units is a high risk factor of younger age of total knee replacement for obesity-related osteoarthritis
9:45-10:15	<b>Keynote: Prof Fary Khan, Australian Rehabilitation Research Centre, The Royal Melbourne Hospital, VIC, Australia</b>  <b>“Disaster Management: outcomes of musculoskeletal and neurological Trauma”</b>		
Session chair: Dr Catherine Galvin			
10:15-10:55 Morning coffee & tea; foyer, ground floor, The John Curtin School of Medical Research			
10:55-12:07	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>Podium 6</b>  Session chair: Prof Paul Smith	Nuttaya	Chavalertsakul	Older hip fracture patients with type 2 diabetes mellitus (DM): prevalence, clinical characteristics and in-hospital outcomes
	Charles Changhan	Xu	Admission platelet-to-lymphocyte ratio (PLR) and lymphocyte-to-monocyte ratio (LMR) - two novel independent predictors of in-hospital mortality and myocardial injury in older patients with hip fracture (HF)
	Milad	Ebrahimi	Finding a needle in a sea of needles: accurate patient identification for populating a patient registry within a clinical environment
	Justin	Fernandez	Optimising patellofemoral joint kinematics in knee arthroplasty through personalised implant design
	Joe	Lynch	Shape is a weak predictor of deep knee flexion kinematics in healthy and osteoarthritic knees
	Dané	Dabirrahmani	Anterolateral procedure combined with ACL reconstruction - a biomechanical cadaveric study
12:07-13:20 Lunch & poster viewing (poster viewing will take place between 12:30-13:20) foyer, ground floor, The John Curtin School of Medical Research			
13:20-13:50	<b>Keynote: Prof David Haynes, The University of Adelaide, Adelaide, Australia</b>  <b>“The 25 years history of ANZORS”</b>		
Session chair: Dr Egon Perilli			
13:50-14:38	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>Podium 7</b>  Session chair: A/Prof Justin Fernandez	Xin	Zhang	A novel dynamic cadaveric wrist simulator for 3-dimensional carpal bone motion measurement using biplane X-ray fluoroscopy
	Catherine	Galvin	Are you mad? You want me to kneel? Comparison of osteoarthritis and healthy knee kinematics while kneeling
	Anthony	Fitzpatrick	Hip implant monitoring through combined acoustic emission and gait analysis
	Diana	Perriman	Gait analysis after gluteal-tendon repair: an age and sex matched comparison
14:38-15:08 Afternoon coffee & tea and poster viewing; foyer, ground floor, The John Curtin School of Medical Research			
15:08-15:44	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>Podium 8</b>  Session chair: Dr Martina Barzan	Edmund	Pickering	Where is the load applied in the mouse-tibia model? Insights through finite element modelling.
	Maged	Awadalla	Trabecular bone growth in an adolescent cystic fibrosis rat model: a pilot study
	David	Ackland	Upper limb tasks with humeral axial rotation increase glenohumeral joint translations in patients with anterior instability
15:44-16:00	President's closing address		

# POSTERS presented on

## Day 1 (Friday October 04)

Foyer, ground floor, The John Curtin School of Medical Research,  
ANU, 131 Garran Rd, Acton ACT

12:30-13:20		Lunch break	
14:50-15:30		Afternoon break	
Poster #	First name	Surname	Abstract title
1	Yue	Ding	The effect of ZBTB20 on wear-particle-induced osteolysis in mice
2	Yi	Deng	Gene expression in osteolysis cases examined using RNA Sequencing
3	Junjie	Gao	Endoplasmic reticulum mediates mitochondrial transfer within the osteocyte dendritic network
4	Sara	Farshidfar	Estimation of ligament strains in a healthy, ACL-deficient and reconstructed knee using specimen-specific OpenSim modelling techniques
8	Arjun	Sivakumar	Comparison of simulated and EMG muscle activations between musculoskeletal models in lower limb dynamic simulations of gait
9	Hamed	Shahidian	Biomechanical analysis of medially stabilised knees
10	Manaal	Fatima	What can we learn from the kangaroo knee in relation to treatment of patellofemoral disorders in humans?
12	Holt	Matthew	Anatomical variability of femoral intercondylar notch geometry in patients diagnosed with primary anterior cruciate ligament rupture
15	Emily	Zhong	Quantitative assessment of repair quality in rotator cuff tear: a novel 3-dimensional method using 3T MRI
16	Shabnam	Saadat	A fast registration method for 3D analysis of knee kinematics after total knee arthroplasty
17	Milad	Ebrahimi	Validation of a 3D scanning system for intraoperative anterior cruciate ligament graft geometry determination
18	Catherine	Ngan	Bioprinting skeletal muscle for neuroprosthetic interfacing
20	Ameya	Bhanushali	The variation in radiographic measurements of hip stability between supine and standing radiographs in patients with late DDH
23	Manaal	Fatima	Why does orthopaedic research fail in clinical practice? Generating realistic expectations from 11,000 work hours
24	Mohammad	Ruhullah	Flexible intramedullary titanium elastic nailing of fracture shaft of radius and ulna in children at a tertiary care teaching hospital
25	MacDougal	Cowley	The effect of a quality management system on the integrity of paper-based patient reported outcomes in an orthopaedic registry
26	Corey	Scholes	Younger female patients in total knee arthroplasty: benefits of a rotating platform knee prosthesis with gap balancing technique
27	Corey	Scholes	Patterns in patient reported outcomes revealed by machine learning in patients presenting with symptomatic rotator cuff pathology
30	Corey	Scholes	Rotator cuff repair with increasing age: surgery in patients >70yrs does not lead to adverse outcomes at 6months follow up

**Please see next page for posters presented on day 3.**

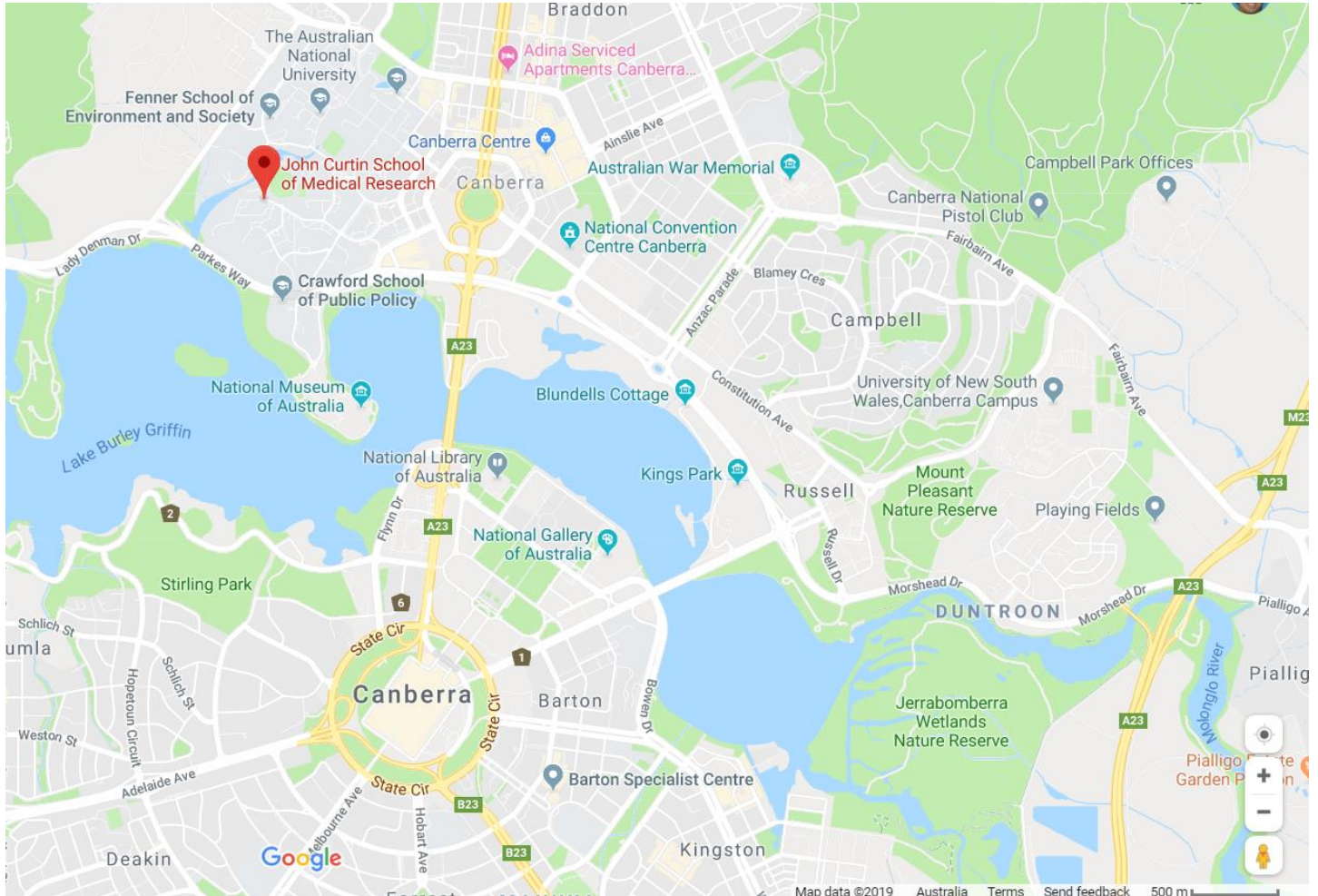
**POSTERS presented on  
Day 3 (Sunday October 06)  
Foyer, ground floor, The John Curtin School of Medical Research,  
ANU, 131 Garran Rd, Acton ACT**

<b>12:30-13:20 Lunch break</b>			
<b>14:50-15:30 Afternoon break</b>			
<b>Poster #</b>	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
5	Hossein	Mokhtarzadeh	A preliminary study: intra-subject variability in dynamic margin of stability during gait
6	Matthew	Holt	Loss of knee extension after ACL reconstruction: what do we know?
7	Ben	Ferguson	Biomechanical analysis of a tissue scaffold and fixation plate used for mandibular reconstruction
11	Hossein	Alemzadeh	Comparison of clinical outcomes between patella resurfacing versus non-resurfacing in primary total knee arthroplasty; a prospective study of 360 cases
13	Sara	Romanazzo	Biomimetic bone precursor nanoparticles enhance angiogenesis and osteogenesis in vitro.
14	Subhajit	Konar	Developing an in vitro system for studying tendon cell response to stiffness and structure
19	MacDougal	Cowley	Can we predict which patients are not fully compliant with patient reported outcomes? An analysis of two thousand patients in clinical practice
21	Chee Han	Ting	Patterns in patient-reported outcomes revealed by machine learning in patients presenting with anterior cruciate ligament rupture
22	Corey	Scholes	Is safe short-stay total knee replacement possible in a regional hospital? Factors associated with hospital length of stay in 362 cases
28	Corey	Scholes	Is short-stay total knee replacement associated with subjective and objective patient function? A prospective observational series with 6 weeks follow up
29	Manaal	Fatima	Effective planning and stakeholder engagement key to registry success: lessons learned from implementation of orthopaedic registries
31	Emily	Zhong	A comparative study of component positioning in total hip arthroplasty by surgical technique, patient positioning and guidance modality
32	Meredith	Harrison-Brown	Do patients need to be followed up annually after metal-on-metal hip resurfacing? An observational cohort study with an average follow-up of 10 years
33	Milad	Ebrahimi	A clinical orthopaedic registry for monitoring outcomes within an upper limb clinic: a quality assessment and baseline report

**All posters will be displayed for the whole duration of the conference and presented on either day 1 or day 3 by the author as indicated.**

# Venue

**The John Curtin School of Medical Research,  
(Finkel Lecture Theatre, ground floor, main entrance),  
ANU, 131 Garran Rd, Acton ACT, Canberra, Australia**



[Google map](#)

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