



## **2017 ANZORS-RSA Joint Conference**

**23rd Annual ANZORS Conference in conjunction with the  
5th Biennial International RSA Meeting**

**6-8<sup>th</sup> October 2017**

**Short Program** (*updated on 03.10.2017*)



**New Royal Adelaide Hospital,  
Corner North Terrace & Port Road, Adelaide, SA 5000, Australia**

# Day 1 (Friday October 06) – Level 8, Room 8D271

New Royal Adelaide Hospital, Corner North Tce & Port Rd, SA 5000

08:00-08:30	Coffee and registration		
08:30-08:45	President's welcome: A/Prof Dominic Thewlis		
08:45-09:15 Session Sponsor: Flinders University  Session chair: Gerald Atkins	<p align="center"><b>Keynote: Prof Stuart Goodman, Stanford University, CA, USA</b></p> <p align="center"><b>“Bone defects in the 21<sup>st</sup> century: New paradigms for the enhancement of bone healing”</b></p>		
<b>09:15-10:25</b>	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>JOINT SESSION</b>	Mengzhen	Yan	Implant stiffness and peri-prosthetic changes in the rat model
Session chairs: Egon Perilli, Gunnar Flivik	Jennifer	Hurry	Ten year migration and inducible displacement of cemented and uncemented tibial components
	Kjell G	Nilsson	Performance of highly crosslinked polyethylene cup in total hip arthroplasty
	Renee	Ormsby	The effects of vitamin E and polyethylene wear particles on osteocytes in vitro: implications for periprosthetic osteolysis
	Matthew	Tweeter	Early in vivo wear measurement of 98 total knee replacement patients using radiostereometric analysis
	Silvia	Trichilo	Image-based method to assess local changes in cortical thickness in the mouse tibia loading model, with and without administration of PTH
	Martin	Downing	Sterilisation of acetabular graft: interim radiostereometry results
	Morning coffee & tea		
<b>10:55-12.15</b>	<b>Parallel session</b>		
	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>ANZORS</b>	Esther	Camp	TWIST-1 regulated microRNA-376c is a novel player in mesenchymal stem cell growth and osteogenic differentiation
Session chairs: Tania Crotti, Stuart Goodman	Agnieszka	Arthur	Loss of EphrinB1 in osteoprogenitors leads to an osteoporotic phenotype in mice
	Chee Ho	Hng	Role of HOPX in BMSC proliferation and differentiation
	Zhirui	Jiang	GH insensitivity disrupts cell cycle progression in the growth plate in Mucopolysaccharidosis VII mice
	Jacob	Kenny	Identification of genes regulating osteoarthritis development using a mouse phenotype library
	Mohammadh ossein	Hassanshahi	Flavonoid genistein potentially protects bone marrow sinusoidal blood vessels and enhances their recovery following methotrexate therapy in rats
	Mohammadh ossein	Hassanshahi	Flavonoid icariin attenuates methotrexate chemotherapy-induced bone loss and bone marrow sinusoid damage in rats and stimulates migration and formation of micro-vessel like tubes in cultured sinusoidal endothelial cells
	Yu-Wen	Su	Injury site derived-neurotrophin-3 as a novel cross-talk signal induces VEGF and promotes angiogenesis and bony repair at injured growth plate
	<b>10:55-12.15</b>	<b>Parallel session</b>	
	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>RSA SESSION</b>	Daan	Koppens	Equal fixation of fixed-bearing versus mobile-bearing cemented partial knee replacement. A randomised, controlled RSA study with 2-year follow-up.
Session chairs: Petra Heesterbeek, David Campbell	Gunnar	Petursson	Similar migration in computer assisted and conventional total knee arthroplasty: A multicenter, parallel-group, randomized controlled trial involving 54 patients
	Karina Nørgaard	Linde	Preoperative systemic bone quality does not affect tibial component migration in knee arthroplasty. A 2 year RSA study of 101 consecutive patients
	Leif	Ryd	RSA-studies on a customized metal implant for cartilage lesions in the knee
	Matthew	Teeter	Implant migration following total knee replacement using conventional or patient specific instruments
	Nils Oscar	Nivbrant	Cementless versus cemented tibial fixation in posterior stabilised total knee replacement - a randomised trial
	Petra	Heesterbeek	Determining the femorotibial contact point in 90° flexion with model-based RSA after PCL-retaining TKA: feasible, stable, and relates to clinical outcome
	Laura	Bragonzoni	Kinematic evaluation of the Zimmer Persona™ prosthesis using dynamic RSA
	Lunch & poster viewing (poster viewing will take place between 12:15-13:00)		

<b>13:00-13:30</b> Session chair: Bart Kaptein	<b>Keynote: Prof Maiken Stilling, Aarhus University Hospital, Denmark</b> <b>“The Development of AutoRSA including dynamic RSA and the future”</b>		
<b>13:30-14:50</b>	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>JOINT SESSION</b>  Session chairs: David Ackland, Maiken Stilling	Lennard	Koster	Fluoroscopic analysis of two TKP systems during step-up and lunge motions
	Saulo	Martelli	In vitro real-time measurement of femoral mechanics during activity
	Lars	Hansen	Dynamic radiostereometric analysis for evaluation of hip joint pathomechanics
	Martina	Barzan	Subject-specific knee kinematics during walking in children and adolescents with recurrent patellar dislocation
	Marco	Bontempi	Kinematic comparison of pre- and post-ACL reconstruction during single-leg-squat using dynamic RSA
	Chalotte	Hemmingsen	Elbow biomechanics, radiocapitellar joint pressure, and interossous membrane strain before and after radial head arthroplasty
	Jasvir	Bahl	Changes in objectively measured activity in patients following total hip arthroplasty
	Janni	Thillemann	Dynamic radiostereometric analysis for evaluation of kinematics in the distal radioulnar joint before and after TFCC lesions
Afternoon coffee & tea and poster viewing			
<b>15:20-16:40</b>	<b>Parallel session</b>		
<b>ANZORS</b>  Session chairs: Bernd Grimm, Nathan Pavlos	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
	Claire	Jones	Radiographic, mechanical and histological evaluation of fusion using peek interbody cages with and without a porous titanium alloy coating, in an ovine model
	Claire	Jones	An articulated, instrumented neck for a paramedic training mannequin: proof-of-concept design and testing
	Erica	Beaucage-Gauvreau	Biomechanical investigation of a braced arm-to-thigh lifting technique for occupational tasks, with kinematic analysis and computer modeling approaches
	Jiao Jiao	Li	Osseointegrated implants in patients with peripheral vascular disease: A multi-centre case series with 1-year follow-up
	Anthony	FitzPatrick	Assessment of hip implant condition through a combined approach of acoustic emission monitoring and patient gait analysis
	David	Kitchen	Time dependent loss of trabecular bone prior to fixation in the fractured tibial plateau
	Christian M	Langton	A passive ultrasound phase-interference compensator to facilitate imaging of soft-tissues through bone
<b>15:20-16:40</b>	<b>Parallel session</b>		
<b>RSA</b>  Session chairs: Stuart Callary, Kjell Nilsson	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
	Xunhua	Yuan	Radiostereometric analysis using clinical radiographic views
	Martin	Downing	Migration assessment using clinical radiography and a single RSA exam
	Peter Bo	Jørgensen	Equivalent femoral stem fixation with hi-fatigue and palacos bone-cements. A 2 year randomized controlled trial with radiostereometric analysis
	Sverrir	Kiernan	Migration pattern of an anatomical stem. One year followup with RSA
	Nils Oscar	Vibrant	Prospective clinical trial assessing: the Nanos® short femoral stem prosthesis in total hip arthroplasty
	Erik	Weber	Migration pattern of a short uncemented hip stem with or without collar
	Matthew	Teeter	Change in acetabular cup orientation from supine to standing position and its effect on wear of highly crosslinked polyethylene
David	Campbell	Wear of a second-generation XLPE liner remains low at 10 years: an RSA study	
<b>18:00-</b>	<b>Young Investigators Pub-dinner</b>  <b>Strictly Masters/PhD students only; free meal; must have indicated attendance during registration</b> <b>At Bank Street Social (v/gf available), 48 Hindley St, Adelaide; 10 min walk from Conference Venue</b> <b>Map: <a href="#">googlemap</a></b>		<b>RSA Group Drinks and Informal Dinner</b>  <b>(not included in conference, no booking necessary, Location To Be Confirmed)</b>

# Day 2 (Saturday October 07) – Level 8, Room 8D271

New Royal Adelaide Hospital, Corner North Tce & Port Rd, SA 5000

07:45-08:00	Coffee & tea		
08:00-08:36	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>David Findlay ECR Award Final</b> Session chairs: Rami Al-Dirini, David Findlay	Dale	Robinson	Classification of fracture risk based on finite element modelling and clinical pQCT imaging of the tibia
	Claudia	Di Bella	In situ bioscaffold 3D printing for cartilage regeneration in a large animal model. Pilot study.
	Melissa	Ryan	Quantification of peri-implant bone strain during screw tightening using digital volume correlation
<b>08:36-09:06</b> <b>Session Sponsor:</b> <b>The University of Adelaide</b>  Session chair: Bogdan Solomon	<b>Keynote: Prof Bernd Grimm, Zuyderland Medical Center, Heerlen, Netherlands</b>  <b>“Physical activity: Clinical outcome parameter, diagnostic bio-marker or medicine. Possibilities for wearable sensors in orthopaedics”</b>		
Morning coffee & tea			
09:36-10:24	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>ANZORS PhD Award Final</b>  Session chairs: Jake Xu, Stuart Goodman	Ryan	Quarrington	Quantitative evaluation of facet deflection, strain and failure load during simulated cervical spine trauma
	Yolandi	Starczak	Vitamin D activity directly regulates osteoclastogenesis and resorptive activity
	Bryant	Roberts	Proximal tibia subchondral bone microarchitecture in varus- and valgus-aligned osteoarthritic knees: comparisons with controls
	Jasvir	Bahl	Prediction of the hip joint centre for musculoskeletal models using an articulated shape model of the pelvis in patients with end-stage hip osteoarthritis.
10:24-10:29	<b>Ed Valstar Recognition</b>		
10:29-11:17	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
<b>RSA PhD Award Final</b>  Session chairs: Johan Kärrholm, Bernd Grimm	Bart	ten Brinke	The role of Radiostereometric Analysis in the evaluation of orthopaedic implants in the upper extremity.
	John	Abrahams	The migration of acetabular components used after complex acetabular reconstructions
	Joris E.	Meinardi	RSA and Inducible Displacement for evaluation of orthopaedic implants
	Koen	Van Hamersveld	The epidemiological aspects of knee prosthetic loosening
11:17-12:20	<b>ANZORS AGM</b> <b>All delegates welcome (and encouraged) to attend</b>		<b>RSA Society Meeting</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 Adelaide by 17:00) <b>Pickup: at 12:30, New Royal Adelaide Hospital</b> <a href="#">Deviation Road winery</a> , Adelaide Hills, SA		
19:00-	<b>Conference Dinner, includes Awards Announcements</b> <a href="#">La Boca restaurant</a> , 150 North Terrace, Adelaide, SA <b>Map: <a href="#">googlemap</a></b>		

# Day 3 (Sunday October 08) – Level 8, Room 8D271

New Royal Adelaide Hospital, Corner North Tce & Port Rd, SA 5000

08:15-08:45	Coffee & tea		
08:45-10:05	Parallel session		
	First name	Surname	Abstract title
<b>ANZORS</b>  Session chairs: David Musson, Saulo Martelli	Kwong Ming	Tse	The influence of rotator cuff tears on shoulder joint contact behaviour after reverse total shoulder arthroplasty
	Richard	Thomas	Implant-tendon contact pressure in an anatomical total shoulder joint replacement
	Lachlan	Huntington	The use of fiberwire and fibertape in rotator cuff repair
	Joseph	Cadman	A novel intramedullary plating technique for reconstructing proximal humerus fractures
	Quyen	Do	Instrumented knee prosthesis with MWCNT/UHMWPE piezoresistive sensor
	Sophie	Rapagna	Quantification of bone microarchitecture damage of a press-fit femoral knee implant
	Nicola	Hribar	Deep knee flexion captured using a 2D-3D image registration process displays different arthrokinematics in older men and women
08:45-10:05	Parallel session		
	First name	Surname	Abstract title
<b>RSA</b>  Session chairs: Leif Ryd, Bart Kaptein	Alexander Nilsskog	Fraser	Precision and accuracy of model-based radiostereometric analysis of the glenoid component in reversed total shoulder arthroplasty
	Bart	Kaptein	CT-based prosthesis migration measurements: a pilot study
	Jennifer	Hurry	Accuracy and precision of RSA in the low-dose EOS imager: a phantom model study
	Madeleine	Van de Kleut	Validation of radiostereometric analysis in six degrees of freedom for use with reverse total shoulder arthroplasty
	Petra	Heesterbeek	Accuracy of a cemented vs uncemented phantom study of a hinged type knee revision system with model based RSA
	Lars	Hansen	Precision of automated GPU accelerated analysis of dynamic RSA in the hip
	Han	Cao	Assessment of accuracy of radiostereometric analysis (RSA) in phantom experiments using a single robotic X-ray tube compared to conventional RSA
	Trygve	Holm-Glad	High precision and accuracy of model-based RSA in total wrist arthroplasty
10:05-10:35 Session Sponsor: <b>The Hospital Research Foundation</b>  Session chair: Peter Pivonka	<b>Keynote: Prof Peter FM Choong, St. Vincent's Hospital Melbourne; University of Melbourne, VIC, Australia</b>  <b>“Orthopaedics – A technology driven speciality”</b>		
Morning coffee & tea			
11:05-12:25	Parallel session		
	First name	Surname	Abstract title
<b>ANZORS</b>  Session chairs: Yin Xiao, Christian Langton	David	Musson	A novel collagen scaffold for improved tendon-bone healing
	Claudia	Di Bella	Co-axial bio-printing of stem cells for the regeneration of articular cartilage
	Ryan	Gao	Human spinal bone dust as a potential local autograft: in vitro potent anabolic effect on human osteoblasts
	Sophia	Leung	Combination loading produces a chondrogenic phenotype than uniaxial loading
	Long	Bai	The influence of Si-doped titania nanotube arrays on endothelial cell functionality
	Dale	Robinson	Design of a novel joint replacement for the human temporomandibular joint
	Erica	Beaucage-Gauvreau	Validation of full body opensim model with detailed lumbar spine to evaluate biomechanics of lifting tasks
	Jorge Enrique	Garcia	How the Therapeutic Goods Administration (TGA) uses Implant Registry Data
11:05-12:25	Parallel session		

	First name	Surname	Abstract title
<b>RSA SESSION</b>	Bart	Kaptein	Unexpected migration between the head and stem in modular neck hip implants
Session chairs: Stephan Röhrli, Bo Nivbrant	Stuart	Callary	The wear rate of highly cross-linked polyethylene is not increased by large articulations: mid term follow-up of a randomised controlled trial
	Andreas	Burger	Clinical wear results for a vitamin-E stabilized polyethylene acetabular liner using a novel model-based approach for measuring wear in radio-opaque cups
	Lene	Dremstrup	Similar press-fit fixation with a spherical and a conical cup design in the trapeziometacarpal joint. A radiostereometric analysis in a pig model.
	Maiken	Stilling	Good 2 year results with a new conical press-fit cup design and dual-mobility articulation in total trapeziometacarpal arthroplasty
	Martin	Downing	Inducible micromotion and contact point provide insight into the migration of pegged glenoid implants
	Emil	Toft Nielsen	Influence of anterolateral ligament on knee laxity during flexion-internal rotation. A biomechanical cadaver study using dynamic radiostereometric analysis.
	John	Field	The utilization of radiostereometric analysis in animal models of human orthopaedic disease
Lunch & poster viewing (poster viewing will take place between 12:40-13:10)			
<b>13:10-13:40</b>	<b>Keynote: Prof Rob Nelissen</b> , Leiden University Medical Centre; TU Delft, Netherlands  “The value of RSA and Registries for patient safety”		
Session chair: Donald Howie			
<b>13:40-15:00</b>	First name	Surname	Abstract title
<b>JOINT SESSION</b>	Donald	Howie	Implant-related revision of primary total hip replacement at 10 year follow-up of a randomised trial of articulation size
Session chairs: Rob Nelissen, Peter Choong	Per-Erik	Johanson	Early proximal migration of cemented cups and the occurrence of aseptic loosening
	Darcy	Noll	The diagnostic performance of acetabular migration to detect aseptic loosening after primary total hip arthroplasty
	Dermot	O'Rourke	Assessing the influence of cup material properties on the primary stability of cementless acetabular cups using finite element modelling
	Liesbeth	Klein	Randomized controlled study comparing the short Collum Femoris Preserving (CFP) and the Corail prosthesis
	Bart	Kaptein	An RSA RCT comparing two cemented fixed bearing knee designs
	Kjell G	Nilsson	Cemented vs uncemented fixation of a cruciate retaining femoral component in total knee replacement of patients younger than 60 years
	Andrew	Kurmis	Pseudotumor development around primary metal-on-metal THRs: the ‘at risk’ genotype
Afternoon coffee & tea and poster viewing			
<b>15:30-16:50</b>	First name	Surname	Abstract title
<b>JOINT SESSION</b>	Masako	Tsukanaka	Accuracy of measuring large dynamic movements with marker-based roentgen fluoroscopic analysis
Session chairs: Martin Downing, Donald Howie	Vahidreza	Jafari Harandi	Muscle contribution to support during walking in transfemoral amputees
	Herman	Kaptijn	Polyethylene wear study on the non-cemented Triathlon CS total knee prosthesis
	Bitu	Shareghi	Pelvic tilt between supine and standing after total hip replacement 106 patients examined with RSA up to 7 years after the operation
	Joseph	Hewitt	The early migration of porous tantalum acetabular components used at revision THR: a comparison of RSA and EBRA results
	Dhara	Amin	Radiostereometric analysis of internal disc strains during more physiological simulation of repetitive lifting motions
	Petra	Heesterbeek	Stability and function of the Prodisc-C vivo cervical disc replacement: feasible with RSA?
<b>16:50-17:00</b>	President's closing address		

**POSTERS on Day 1 (Friday October 06) – Level 8, Room 8D271  
New Royal Adelaide Hospital, Corner North Tce & Port Rd, SA 5000**

12:15-13:00		Lunch break	
14:50-15:20		Afternoon break	
Poster #	First name	Surname	Abstract title
4	Antonia RuJia	Sun	High carbohydrate high fat diet induced metabolic overload cause osteoarthritis-like changes of the cartilage and shift macrophage polarisation status in a rat model
8	Chelsea	Woo	Use of anodic oxidation to enhance the biocompatibility of tantalum implants
17	Danè	Dabirrhmani (Turner)	Biomechanics of stair descent in patients with knee osteoarthritis enrolled in TKA
23	Julia	Kuliwaba	Association between bone microstructure, microdamage, vascularity and bone marrow lesions in the subchondral bone of knee osteoarthritis
31	Jiao Jiao	Li	Osseointegrated Prosthetic Limb for the reconstruction of lower limb amputations: Outcomes at 1-year follow-up
33	Kent	Algate	Epigenetic regulation of human osteoblasts by inhibition of histone deacetylase 5 enhances markers of bone formation in vitro
37	Luisa	Schreck	Anti-microbial bioceramic coating on Ti6Al4V surfaces by anodisation
43	Nhiem	Tran	Novel antimicrobial coating for antiinfective medical devices
47	Rami M A	Al-Dirini	Influence of surgical variation in stem sizing and positioning on the primary stability of cementless femoral stems
53	Saulo	Martelli	Femoral fracture during side fall: sensitivity of dynamic finite-element models
59	Stuart	Millar	Understanding three-dimensional fracture patterns of the tibia and femur in orthopaedic trauma: estimating longitudinal and condylar axes on CT reconstructions of partial lengths and widths of bone
60	Thomas	Nottage	The effects of advanced glycation end products on the nano-structural properties of bovine cortical bone
62	Will	Robertson	Open source comparison of regression-based body segment parameter models
66	Zhibin	Du	Ovariectomy induced ultrastructure and mechanical property changes in rat's maxillary bone

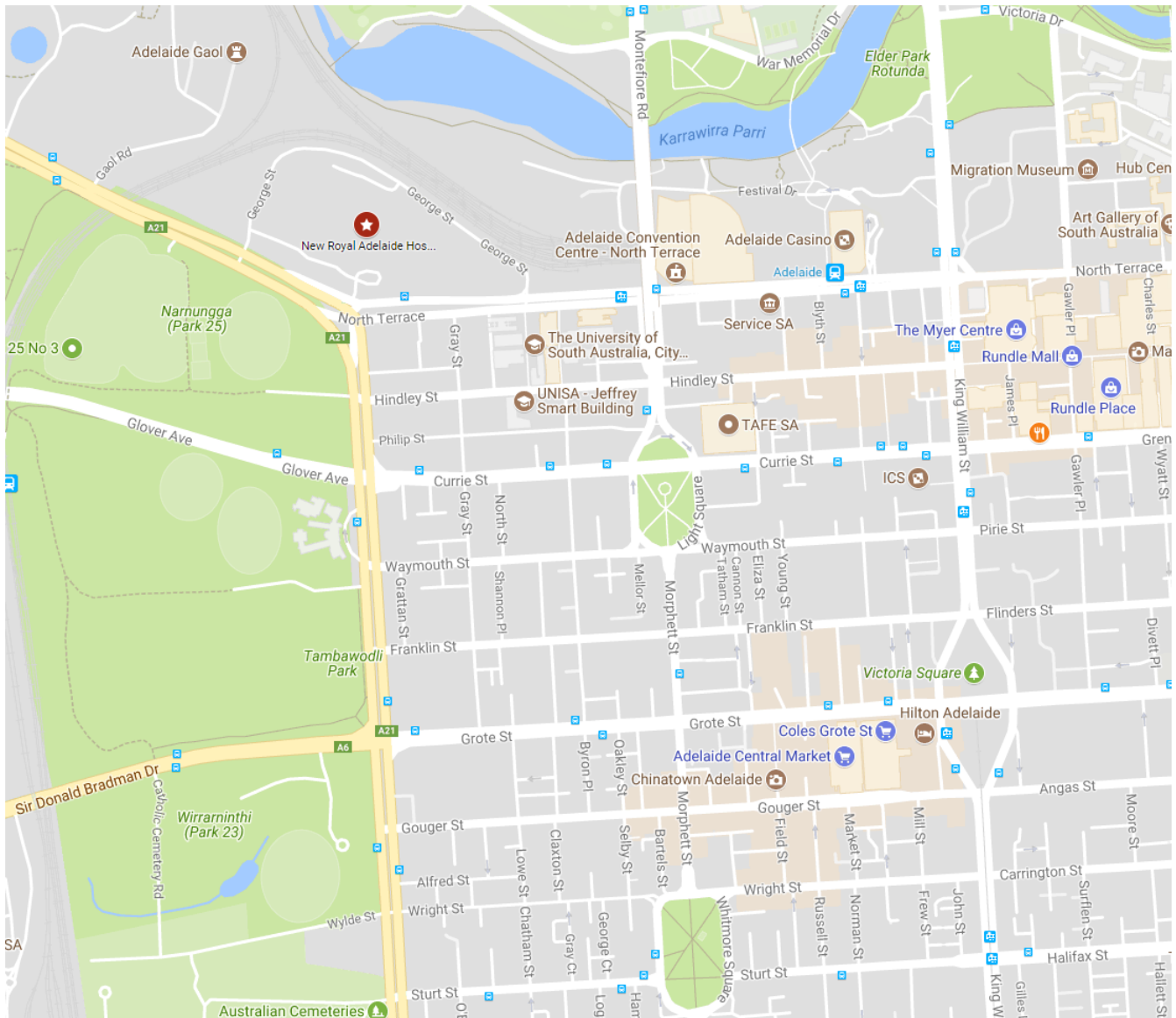
**POSTERS on Day 3 (Sunday October 08) – Level 8, Room 8D271  
New Royal Adelaide Hospital, Corner North Tce & Port Rd, SA 5000**

<b>12:40-13:10 Lunch break</b>			
<b>15:00-15:30 Afternoon break</b>			
<b>Poster #</b>	<b>First name</b>	<b>Surname</b>	<b>Abstract title</b>
22	Dhara	Amin	Serum metal levels after removal of spinal instrumentation
102	Andreas	Burger	A model-based radiostereometric analysis approach to measuring stability of a cementless metal-backed patella
107	Bart	ten Brinke	Long term follow-up after instrumented bone preserving total elbow arthroplasty using radiostereometric analysis
115	Jennifer	Hurry	The influence of subject and implant characteristics tibial component migration
120	Ian	Blom	Effective radiation dose and image quality in roentgen stereophotogrammetric analysis
121	Ioane	Vakaci	Application of torsional loads in ovine fracture models to measure stiffness with rsa
124	Jennifer	Hurry	Total knee arthroplasty RSA in the standing low-dose biplanar EOS x-ray imager
127	Joris E.	Meinardi	A selection of preliminary 1 year post-operative RSA-data of the Persona versus NexGen TKP-study: does the novel design perform just as well?
131	Kjell G	Nilsson	Monoblock posterior stabilized vs cruciate retaining trabecular metal tibial component
134	Koen	van Hamersveld	Migration and radiological appearance of uncemented Tritanium tibial components – One-year results of a randomised RSA study
149	Martin	Downing	Fully automated “live” RSA analysis in the radiography room: practical experience and comparison to manual measurement
150	Martin	Downing	Radiostereometric assessment of healing in proximal humeral fractures
153	Matthew	Teeter	Tibial component migration in total knee replacement performed using gap balancing and measured resection techniques
156	Petra	Heesterbeek	Feasibility of model-based RSA of the tibial component of bicruciate retaining TKA
159	Nils Oscar	Nivbrant	A prospective consecutive series assessing migration and rotation of the absolut cemented femoral stem
163	Janni Kjærgaard	Thillemann	Precision of bone models in dynamic RSA of the elbow and forearm
168	Thomas	Turgeon	Stability assessment of a new knee replacement product using radiostereometric analysis
171	Umberto	Cardinale	Kinematic evaluation of the Depuy Attune™ prosthesis using dynamic RSA



## Venue

**New Royal Adelaide Hospital, Level 8, Room 8D271  
(from hospital entrance, please take the D lift, then turn left on Level 8)  
Corner North Terrace & Port Road, Adelaide, SA 5000, Australia**



[Google map](#)

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