

**5<sup>th</sup> Joint Conference of the  
Bone Research Society (BRS) and British Orthopaedic Research Society (BORS)  
School of Biosciences, Cardiff University**

**4-6 September 2019**

**Draft Programme (21/06/2019)**

<b>Wednesday 4 September 2019</b>	
<b>1200</b>	Registration desk opens
<b>1300-1500</b>	<b>Mid-Career Development Workshop supported by the ORS Ambassadors Program</b> Chairs: <b>Kassim Javaid</b> (Oxford, UK) and <b>Sophie Williams</b> (Leeds, UK)
<b>1500-1530</b>	Refreshment break
<b>1530-1650</b>	<b>Muscle, Tendon and Bone Workshop</b> Chairs: <b>Alex Ireland</b> (Manchester, UK) and <b>Sarah Snelling</b> (Oxford, UK)
<b>1530-1555</b>	Tendon Structure, Function and Adaptation in Humans - <b>Neil Reeves</b> (Manchester, UK)
<b>1555-1620</b>	Making Connections: engineering hard-soft tissue interfaces – <b>Jennifer Paxton</b> (Edinburgh, UK)
<b>1620-1630</b>	<b>OC1</b> , High tibial osteotomy (HTO) and wide stance (WS) gait reduces knee joint loading in individuals with varus knee deformity – <b>Jake Bowd</b> (Cardiff, UK)
<b>1630-1640</b>	<b>OC2</b> , Which muscle parameters are longitudinally associated with knee osteoarthritis outcomes? Findings from the Hertfordshire Cohort Study – <b>Nicholas Fuggle</b> (Southampton, UK)
<b>1700-1830</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>New Investigator Evening</b> – Round table 'Meet the Expert' Discussions: Organisers: <b>Elizabeth Curtis</b> (Southampton, UK), <b>Hazel Fermor</b> (Leeds, UK), <b>Richard van Arkel</b> (London, UK) and <b>Dimitris Vlachopoulos</b> (Exeter, UK)</p> <p>Small project grants Working in industry Clinical academic career Meet the editor / Getting published Bridging the gap Moving abroad for research Improving your online profile Translation pathways (quality management, identifying project partners) Basic science academic career</p> </div> <div style="width: 45%;"> <p><b>1730-1820 Public Lecture</b> Chairs: <b>Elaine Dennison</b> (Southampton, UK) and <b>Mark Wilkinson</b> (Sheffield, UK)</p> <p>More than skin deep: how sunlight shapes our bodies and minds - <b>Linda Geddes</b></p> <p>In conjunction with the BRS Neil MacKenzie Public Engagement award</p> </div> </div>

**Wednesday 4 September 2019 Continued/...**

<b>1900-2200</b>	<b>Rare Bone Diseases Workshop and Supper (Temple of Peace)</b>	<b>1900-2100</b>	<b>Biomechanics and Bioengineering Research Centre Versus Arthritis Workshop</b>
1900-1910	Registration and networking		<b>'Interdisciplinary research in Osteoarthritis'</b> Chairs: <b>Ben Egan</b> (Cardiff, UK) and <b>Ilse Jonkers</b> (Leuven, Belgium)  An engineer's perspective - <b>Paul Biggs</b> (Cardiff, UK) A biologist's perspective - <b>Sophie Gilbert</b> (Cardiff, UK) An orthopaedic registrar's perspective - <b>Alison Kinghorn</b> (Cardiff, UK)  <i>Light buffet supper and networking</i>
1910-1915	Introduction and setting the scene for rare bone diseases research in the UK – <b>Kassim Javaid</b> (Oxford, UK)		
1915-2000	Rare disease mechanistic insights to therapy - <b>Brendan Lee</b> (Houston, USA)	<b>1900 – 1920</b>	
2000-2005	<b>OC3</b> , Ochronotic pigment distribution in alkaptonuric mice reveals that homogentisic acid deposition in tissues reflects the intensity of mechanical loading – <b>Juliette Hughes</b> (Liverpool, UK)	<b>1925 – 1945</b>	
2005-2010	<b>OC4</b> , Characterization of Pain in Fibrous Dysplasia – <b>Tihana Spencer</b> (Bethesda, USA)	<b>1945 - 2010</b>	
2010-2015	<b>OC5</b> , Novel use of Burosumab in refractory iron-induced FGF23 mediated hypophosphataemic osteomalacia – <b>Raj Amarnani</b> (Oxford, UK)	<b>2010 - 2100</b>	
2020-2030	Short break		
2030-2100	Unanswered orthopaedic issues when treating broken brittle bones - <b>Fergal Monsell</b>		
2100-2130	Rare OI phenotypes: why detailed phenotyping matters - <b>Meena Balasubramanian</b>		
2130-2200	The genetic epidemiology of acquired heterotopic ossification: Prospects for novel treatment strategies? <b>Mark Wilkinson</b> (Sheffield, UK)		

Thursday 5 September 2019	
0830	Registration and coffee
0900-0920	Welcome and opening remarks Bronwen Evans and Richie Gill
0920-1020	<b>Symposium 1: – Osteoarthritis</b> Chairs: <b>Bronwen Evans</b> (Cardiff, UK) and <b>Richie Gill</b> (Bath, UK)
0920-0950	<b>IS1</b> , Comorbidities and Osteoarthritis - <b>Fiona Watt</b> (Oxford, UK)
0950-1020	<b>IS2</b> , Novel strategies in regenerative medicine for musculoskeletal disease - <b>Andrew McCaskie</b> (Cambridge, UK)
1020-1100	<b>Oral communications – OA theme</b> Chairs: <b>Clare Brockett</b> (Leeds, UK) and <b>Dimitris Vlachopoulos</b> (Exeter, UK)
1020-1030	<b>OP6</b> , Mutations in osteoarthritis susceptibility genes cause functional changes in zebrafish joints that lead to altered load and disease pathology – <b>Chrissy Hammond</b> (Bristol, UK)
1030-1040	<b>OP7</b> , Preclinical diabetes accelerates onset of Osteoarthritis - lessons from model system - <b>Samuel Joshua Pragasam</b> (Hyderabad, India)
1040-1050	<b>OP8</b> , Bi-Unicondylar Arthroplasty preserves the Anterior Cruciate Ligament, retaining near-normal anteroposterior stability in the treatment of medial and lateral tibiofemoral arthrosis – <b>Amy Garner</b> (London, UK)
1050-1100	<b>OP9</b> , Individuals with high bone mass have increased clinical and radiographic progression of knee osteoarthritis independent of fat mass <b>April Hartley</b> , (Bristol, UK)
1100-1200	Coffee and poster viewing (odd numbered posters)
1200-1230	<b>Plenary lecture</b> Chairs: <b>Jim Gallagher</b> (Liverpool, UK) and <b>Ines Reichert</b> (London, UK) <b>IS3</b> - New therapeutic approaches to OA, <b>Brendan Lee</b> (Houston, USA)

**Thursday 5 September 2019 Continued/...**

<p><b>1230-1250</b></p>	<p><b>Poster Pitching</b>                  Chairs: <b>Jim Gallagher</b> (Liverpool, UK) and <b>Ines Reichert</b> (London, UK)  <b>PP1</b>, High tibial osteotomy (HTO) and wide stance (WS) gait reduces knee joint loading in individuals with varus knee deformity - <b>Jake Bowd</b> (Cardiff, UK)  <b>PP2</b>, Which muscle parameters are longitudinally associated with knee osteoarthritis outcomes? Findings from the Hertfordshire Cohort Study - <b>Nicholas Fuggle</b> (Southampton, UK)  <b>PP3</b>, Ochronotic pigment distribution in alkaptonuric mice reveals that homogentisic acid deposition in tissues reflects the intensity of mechanical loading - <b>Juliette Hughes</b> (Liverpool, UK)  <b>PP4</b>, Osteoblast-specific Enpp1 deficiency promotes bone mass whilst worsening the metabolic phenotype - <b>Fiona Roberts</b> (Oxford, UK)  <b>PP5</b>, Associations between chondrocyte transiency and osteoarthritis pathology - <b>Hasmik Jasmine Samvelyan</b> (Edinburgh, UK)  <b>PP6</b>, Barbara Mawer Travelling fellowship: Associations between endocrine metabolites and bone mineral density in children aged 6-8 years: the PANIC study - <b>Dimitris Vlachopoulos</b> (Exeter, UK)  <b>PP7</b>, Determinants of bone mineral content and density in children aged 6-8 years: the PANIC study - <b>Annie Constable</b> (Exeter, UK)  <b>PP8</b>, Does screening for high hip fracture risk reduce fractures by modifying falls risk? A post hoc analysis from the SCOOP study - <b>Eugene McCloskey</b> (Sheffield, UK)  <b>PP9</b>, The Effect of Bone Quality on the Time Dependant Response of Human Trabecular Bone at Physiological Levels of Strain - <b>Robert Wallace</b> (Edinburgh, UK)  <b>PP10</b>, New therapeutic avenues in bone repair: harnessing a novel endogenous molecule to boost bone and prevent bone loss in inflammatory disease - <b>Jonathan Lewis</b> (Birmingham, UK)  <b>PP11</b>, Do sex hormones determine sexual dimorphism of the bone vasculature? <b>Alice Goring</b> (Southampton, UK)</p>	
<p><b>1250-1350</b></p>	<p>Lunch</p>	
	<p><b>BRS Annual General Meeting</b></p>	<p><b>BORS Annual General Meeting</b></p>
<p><b>1350-1445</b></p>	<p><b>Sponsored Symposium – UCB</b></p>	

Thursday 5 September 2019 Continued/...		
1445-1545	<b>OATech+ Symposium</b> Chairs: <b>Sophie Gilbert</b> (Cardiff, UK) and <b>Valerie Sparkes</b> (Cardiff, UK)	<b>Basic</b> Chairs: <b>Andrew Chantry</b> (Sheffield, UK) and <b>Isabel Orriss</b> (London, UK)
1445-1515	<b>IS5</b> , OA – where movement modelling meets biology - <b>Ilse Jonkers</b> (Leuven, Belgium)	<b>1445-1455 OC10</b> , Systemic Teriparatide with Locally Injected Mesenchymal Stem Cells Synergistically Enhances Fracture Healing – <b>Liza Osagie</b> (London, UK)
1515-1525	<b>IS4</b> , OATech+ EPSRC Network plus funding update - <b>Cathy Holt</b> (Cardiff, UK)	<b>1455-1505 OP11</b> , Predicting cortical bone adaptation in the mouse tibia: a longitudinal study – <b>Vee San Cheong</b> (Sheffield, UK)
1525-1545	<b>IS6</b> , Imaging OA – technology challenges and opportunities - <b>David Williams</b> (Cardiff, UK)	<b>1505-1515 OC12</b> , The secretome of mesenchymal stromal cells drives functional heterogeneity – <b>Andrew Stone</b> (York, UK)
		<b>1515-1525 OC13</b> , Analysis of osteoclastic resorption in vitro reveals new pathways of bone collagen breakdown and novel markers of bone resorption in vitro and in vivo – <b>Brendan Norman</b> (Liverpool, UK)
		<b>1525-1535 OC14</b> , Understanding the role of L-cysteine and hydrogen sulphide in the beneficial effects of N-acetylcysteine on bone formation and arterial medial calcification – <b>Lucie Bourne</b> (London, UK)
		<b>1535-1545 OC15</b> , TightRight : augmenting screwdrivers to reduce bone stripping rates and optimise tightness when inserting non-locking screws – <b>James Fletcher</b> (Bath, UK)
1545–1605	Coffee and poster viewing	

Thursday 5 September 2019 Continued/...		
1605-1705	<b>Symposium 2: - Epigenetics</b> Chairs: <b>Elizabeth Curtis</b> (Southampton, UK) and <b>Debbie Mason</b> (Cardiff, UK)	<b>Symposium 3: - Epidemiology and Health Services Research</b> (Sponsored by National Joint Registry for England and Wales)
1605-1635	<b>IS7</b> , What has DNA methylation analysis told us about OA? <b>Louise Reynard</b> (Newcastle, UK)	Chairs: <b>Kassim Javaid</b> (Oxford, UK) and <b>Andrew McCaskie</b> (Cambridge, UK)
1635-1705	<b>IS8</b> , microRNA biomarkers: new diagnostic and prognostic tools for bone diseases - <b>Matthias Hackl</b> (Vienna, Austria)	<b>IS9</b> , Patient reported outcome measures in musculoskeletal disease - How can they inform decision-making? <b>Ola Rolfson</b> (Gothenburg, Sweden)
		<b>IS10</b> , A global perspective on adolescent growth and healthy musculoskeletal ageing - <b>Kate Ward</b> (Southampton, UK)
1705-1715	Break	
1715-1745	<b>Sponsored Symposium – Gedeon Richter</b> Chairs: <b>Elaine Dennison</b> (Southampton, UK) and <b>Bridget Scammell</b> (Nottingham, UK)	
1745-1830	<b>Debate</b> Chairs: <b>Bronwen Evans</b> (Cardiff, UK) and <b>Mark Wilkinson</b> (Sheffield, UK) This house believes that if it doesn't hurt it isn't a disease: <b>IS13</b> , For the motion; <b>Chris Little</b> (Sydney, Australia) <b>IS14</b> Against the motion; <b>Alison Gartland</b> (Sheffield, UK)	
1915-2300	Conference Dinner – National Museum Cardiff	

Friday 6 September 2019	
0830–0930	<p><b>Symposium 4: Cancer and Bone</b></p> <p>Chairs: <b>Michelle Lawson</b> (Sheffield, UK) and <b>Iain Murray</b> (Edinburgh, UK)</p>
0830–0900	<p><b>IS15</b>, Endogenous production of IL-1B by breast cancer cells drives metastasis and colonisation of the bone microenvironment - <b>Penny Ottewell</b> (Sheffield, UK)</p>
0900-0930	<p><b>IS16</b>, Bones, Groans and Lumps: Improving Outcomes in Orthopaedic Oncology <b>Mike Parry</b> (Birmingham, UK)</p>
0930–1000	<p><b>Poster pitching X 15 selected from abstract submissions</b></p> <p>Chairs: <b>Michelle Lawson</b> (Sheffield, UK) and <b>Iain Murray</b> (Edinburgh, UK)</p> <p><b>PP12</b>, Evaluating strength of 3D printed screw threads for patient-specific osteosynthesis plates - <b>Alisdair MacLeod</b> (Bath, UK)</p> <p><b>PP13</b>, What is the optimum tightness for non-locking cortical screws, and how can this be predicted prior to insertion? <b>James Fletcher</b> (Bath, UK)</p> <p><b>PP14</b>, Genome-wide Expression Analysis of Human Osteoclasts Following Clinically Relevant Cobalt and Chromium Exposure - <b>Karen Shah</b> (Sheffield, UK)</p> <p><b>PP15</b>, How does body weight influence the risk of vertebral fracture? <b>Jin Luo</b> (London, UK)</p> <p><b>PP16</b>, Accelerated osteogenesis in vivo and in vitro achieved through metabolic and secretomic modification in mesenchymal stromal cells - <b>Alasdair Kay</b> (York, UK)</p> <p><b>PP17</b>, Higher birthweight is associated with greater limb muscle mass and grip strength in middle age: findings from the UK Biobank Imaging Enhancement - <b>Elizabeth Curtis</b> (Southampton, UK)</p> <p><b>PP18</b>, Measuring prosthesis migration using a novel ultra-low dose CT-based method - <b>Kartik Logishetty</b> (London, UK)</p> <p><b>PP19</b>, Pharmacokinetics of parathyroid hormone peptide PTH 1-34 via nasal spray for the treatment of osteoporosis - <b>Richard Pearson</b> (Nottingham, UK)</p> <p><b>PP20</b>, The influence of the RNA binding protein HuR on skeletal development is not mediated through the control of mesenchymal cell differentiation - <b>Simon Tew</b> (Liverpool, UK)</p> <p><b>PP21</b>, Investigating the regulation of bone mineralisation through in vitro and in vivo models of chronic kidney disease - <b>Shun-Neng Hsu</b> (Edinburgh, UK)</p> <p><b>PP22</b>, Changes in gait, knee loading and patient reported outcomes following High Tibial Osteotomy - <b>Gemma Whatling</b> (Cardiff, UK)</p> <p><b>PP23</b>, An in vitro assessment of knee kinematics following radial tears of the medial meniscus - <b>Fahd Mahmood</b> (Glasgow, UK)</p> <p><b>PP24</b>, Correlations between Radiographic Classification Systems and Confirmed Cartilage Loss in Severe Knee Osteoarthritis - <b>Oisin Keenan</b> (Edinburgh, UK)</p> <p><b>PP25</b>, Impact of renal function on response to oral and i.v. bisphosphonate treatment: Real world observational data using linkage to national registers - <b>Bo Abrahamsen</b> (Odense, Denmark)</p> <p><b>PP26</b>, A tale of two phosphatases: how do matrix vesicles generate phosphate for bone mineralization? <b>Scott Dillon</b> (Edinburgh, UK)</p>
1000–1100	Coffee and poster viewing (even numbered posters)

Friday 6 September 2019 Continued/...		
1100–1200	<b>Clinical</b> Chairs: Rosemary <b>Hollick</b> (Aberdeen, UK) and <b>Chris Wilson</b> (Cardiff, UK)	<b>Basic/Translational X 6 orals selected from abstracts</b> Chairs: <b>Claire Clarkin</b> (Southampton, UK) and <b>Andrew Phillips</b> (London, UK)
1100-1110	<b>OC16</b> , Targeting Rehabilitation to Improve Outcomes following total knee arthroplasty (TRIO): a randomised controlled trial of physiotherapy interventions – <b>David Hamilton</b> (Edinburgh, UK)	<b>OC22</b> , Transforming growth factor (TGF) $\beta$ inhibition with chemotherapy heals murine myeloma bone disease and improves fracture resistance – <b>Alanna Green</b> (Sheffield, UK)
1110–1120	<b>OC17</b> , Over-Impaction of Acetabular Cups Can Reduce Fixation Strength: Surgical Technique Is Critical – <b>Ruben Doyle</b> (London, UK)	<b>OC23</b> , Breast cancer metastasis to bone; the effect of LOX and P2X7R inhibition, <b>Karan Shah</b> (Sheffield, UK)
1120–1130	<b>OC18</b> , Bi-Unicondylar Arthroplasty preserves healthy gait characteristics and near-normal extensor mechanism efficiency compared to Total Knee Arthroplasty – <b>Amy Garner</b> (London, UK)	<b>OC24</b> , Sexual dimorphism in both bone geometry and bone strength for a mouse model of Paget’s disease of bone (PDB) – <b>Alisha Sharma</b> (Southampton, UK)
1130–1140	<b>OC19</b> , Preoperative Gait Biomechanics and its Relationship to Functional Outcome Following Total Hip Arthroplast – <b>Paul Biggs</b> (Cardiff, UK)	<b>OC25</b> , Is the mechanical function of the meniscus altered in osteoarthritic knees? <b>Fahd Mahmood</b> (Glasgow, UK)
1140-1150	<b>OC20</b> , Platelet-rich plasma (PRP) for patellar tendinopathy: a randomized controlled trial of leukocyte-rich PRP or leukocyte-poor PRP vs. saline – <b>Alex Scott</b> (Vancouver, Canada)	<b>OC26</b> , Repurposing glutamate receptor antagonists to prevent the onset of post-traumatic osteoarthritis – <b>Cleo Bonnet</b> (Cardiff, UK)
1150-1200	<b>OC21</b> , Charting longitudinal patient function following TKA and evaluating the influence of implant design: 8-year follow-up of a prospective RCT – <b>David Hamilton</b> (Edinburgh, UK)	<b>OC27</b> , Late breaking abstract – details to be confirmed
1200-1230	<b>BRS Dent Lecture</b> <b>Tim Arnett</b> (London, UK) Chair: <b>Jim Gallagher</b> (Liverpool, UK)	<b>BORS Presidential Lecture</b> <b>Andrew Amis</b> (London, UK) Chair: <b>Richie Gill</b> (Bath, UK)
1230-1330	Lunch and poster viewing	



Friday 6 September 2019 Continued/...		
1330-1430	<p><b>Symposium 5: Imaging (co-sponsored by ImagingBioPro Network and Scanco)</b> Chairs: <b>Robert Wallace</b> (Edinburgh, UK) and <b>Wayne Ayre</b> (Cardiff, UK)</p> <p><b>1330 – 1400</b> <b>IS17</b>, Synchrotron imaging for bone research - <b>Ralph Muller</b> (Zurich, Switzerland)</p> <p><b>1400 – 1430</b> <b>IS18</b>, Making Rainbows: Clinical Applications for Synchrotron Imaging - <b>Richie Abel</b> (London, UK)</p>	<p><b>Symposium 6: Clinical cases</b> Chairs: <b>Amy Garner</b> (London, UK) and <b>Mike Stone</b> (Cardiff, UK)</p> <p>1. 2. 3. 4.</p>
1430 - 1440	10 minute break	
1440 – 1510	<p><b>Plenary Lecture</b> Chairs: <b>Bronwen Evans</b> (Cardiff, UK) and <b>Richie Gill</b> (Bath, UK)</p> <p><b>IS19</b>, Mechanistic insights from Combination therapies- opportunities for osteoporosis and fracture healing - <b>Bente Langdahl (Aarhus, Denmark)</b></p>	
1510 – 1610	<p><b>Oral communications</b> Chairs: <b>Bronwen Evans</b> (Cardiff, UK) and <b>Richie Gill</b> (Bath, UK)</p> <p><b>1510 – 1520</b> <b>OC28</b>, Molecular imaging modalities reveal pathological matrix disorganisation in whole bone sections and isolated osteoblasts – <b>Aikta Sharma</b> (Southampton, UK)</p> <p><b>1520 – 1530</b> <b>OC29</b>, Can we predict medial knee load during gait for varus osteoarthritic knees using radiographic alignment measures? <b>Gemma Whatling</b> (Cardiff, UK)</p> <p><b>1530 – 1540</b> <b>OC30</b>, Comprehensive evaluation of the morphology and mechanics of the human femoral head – <b>Enrico Dall'Ara</b> (Sheffield, UK)</p> <p><b>1540 – 1550</b> <b>OC31</b>, Visualisation and quantification of in situ porcine acetabular soft tissue behaviour: A study of labrum circumferential behaviour – <b>Jiacheng Yao</b> (Leeds, UK)</p> <p><b>1550 - 1600</b> <b>OC32</b>, AMPA/kainate glutamate receptors regulate inflammatory and degradative markers in 3D loading models of cartilage and bone – <b>Sophie Gilbert</b> (Cardiff, UK)</p> <p><b>1600 - 1610</b> <b>OC33</b>, Late breaking abstract – details to be confirmed</p>	
1610 - 1625	<b>Awards and closing remarks</b>	