



## British Orthopaedic Research Society Meeting

9<sup>th</sup> and 10<sup>th</sup> September 2024

University of Sheffield

The Royal College of Surgeons of England has awarded up to 11.5 CPD points



### Provisional conference schedule (as at 30th August 2024)

DAY 1	MONDAY 9 <sup>th</sup> SEPTEMBER 2024
0830	Registration/coffee
0900	<b>Welcome</b> Prof Ashley Blom and Claire Brockett
0910-0940	<b>Keynote 1</b> Dr Andrew Phillips, Structural modelling of bone: a story that ends by starting at the middle Chair Claire Brockett
0940-1030	<b>Session 1 Clinical Biomechanics</b> Chair Claire Brockett, Lauren Swain
0940-0950	In-vivo kinematics of the ankle complex during level gait - David Williams
0950-1000	Exploring long-term effects: dynamic stability and gait variability in adults with previous lower limb injury - Henry Kelsey
1000-1010	Experimental simulation of the natural shoulder joint - Sophie Hutchinson
1010-1020	Minimal consideration of rehabilitation in randomised trials of stem cell interventions for tendon injuries could affect clinical outcomes: a systematic review using the TIDieR framework - David Hamilton
1020-1030	Early versus delayed weight-bearing following operatively treated ankle fracture (WAX). A randomised controlled trial and health economic evaluation - Chris Bretheron
1030 - 1100	<b>Coffee and posters</b>
1100	<b>Keynote 2</b> Prof David Pierce: Chemo-Mechano-Biological Modeling of Evolving Cartilage: Theory and Application Chair Damien Lacroix and Xinshan Li
1130-1210	<b>Session 2 Mechanobiology</b> Chair Damien Lacroix, Xinshan Li
1130-1140	The effects of decellularisation process optimisation on the structure-function relationship of tendon comparing 4-day and 26-day processes. Victoria Haines-Wooley
1140-1150	Effects of Mechanical Loading on Lacunae Morphology across Enthesis Calcified Fibrocartilage - Atousa Moayedi
1150-1200	Metaphyseal trabecular bone separation is bimodal - Jonathan Williams

1200-1210	Mechanisms of Relaxation and Creep in a Bovine Intervertebral Disc – An Experimental and Computational Study - Meg Alipat
<b>1210-1240</b>	<b>Rapid Poster presentations session 1</b> Posters numbered between 3-24
<b>1240-1340</b>	<b>Lunch and posters</b>
<b>1340-1450</b>	<b>Session 3 Clinical studies</b> Chair Hamish Simpson, Muhamed Alanie
1340-1350	TLICS: Reliable In the hands of Pre-registrar clinicians? Suhib Taher
1350-1400	A Transgluteal Approach to the Hip Which Preserves Abductor Function and Maintains a Low Dislocation Rate - A Retrospective Study of Short and Mid-term Outcomes - Michael Ward
1400-1410	Joint awareness, function, and pain measures characterise 70% of the variance in 29 knee arthroplasty outcome measures: A principal component analysis - Glory Abugu
1410-1420	Identifying effective interventions to maintain bone health in lower limb amputees - Linjie Wang
1420-1430	Lifetime Cost-per-QALY of Primary and Revision Total Knee Arthroplasty: A Markov Model and Empirical Analysis - David Hamilton
1430-1440	Revision For Dislocation and All-causes Following Primary Total Hip Replacement Using 36-mm Versus 32-mm Femoral Heads on Polyethylene Liners: A Systematic Review and Meta-Analysis – Muhamed Alanie
<b>1440-1510</b>	<b>Rapid Poster presentations session 2</b> Posters numbered between 26-46
<b>1510-1545</b>	<b>Coffee and posters</b>
<b>1545-1630</b>	<b>Presidential lecture</b> Prof Deborah Mason, Cardiff Chair Andrew Phillips, BORS President
<b>1630-1800</b>	<b>Pain workshop</b> Organisers: Dr Ryan Jones, Prof Deborah Mason
	Drinks reception to follow at The Edge
<b>2000</b>	<b>Dinner at Inox Dine*</b> Arrive before 8pm as dinner will be served at this time

\*Please allow 30 minutes to walk down to Inox Dine.

<b>DAY 2</b>	<b>TUESDAY 10<sup>th</sup> SEPTEMBER</b>
<b>0830</b>	<b>Registration/coffee</b>
<b>0855</b>	<b>Welcome</b> Christine Le Maitre
<b>0900</b>	<b>Keynote 3</b> Dr Sybille Grad - Bioreactor loaded ex-vivo models and co-culture systems for osteoarthritis research Chair Christine Le Maitre
<b>0930-1020</b>	<b>Session 4 Biomechanical modelling</b> Chair Christine Le Maitre, David Williams
0930-0940	Intra-rater Repeatability and the Confidence of True Change for Spinal Measurements Taken From 3D EOS Models - Matthew Bellamy
0940-0950	Impingement in Dual Mobility Hip Joint Replacement according to ASTM F2582:2020 - Mazen Al-Hajjar
0950-1000	Wear of Antioxidant and moderately cross-linked Polyethylene in a Dual Mobility Hip bearings with addition of Third Body Particles - Mazen Al-Hajjar
1000-1010	A cautionary tale in using inertial measurement unit-based wearables for the assessment of 3D pelvic orientation: An objective comparison against an optoelectrical motion capture system - Oliver Vickers
1010-1020	Assessment of Fluid Ingress into the Graft-Host Interface of Osteochondral Autografts under Cyclic Loading in the Knee using a Porcine Model - Lara Esquivel
<b>1020-1030</b>	<b>Rapid Poster Pitch</b> (time reserved in case of over-run on Day 1)
<b>1030-1050</b>	<b>Coffee and Posters</b>
<b>1050-1120</b>	<b>Keynote 4</b> Prof Ele Zeggini - Translational Genomics of Osteoarthritis Chair Mark Wilkinson
<b>1120-1220</b>	<b>Session 5 Disease Pathobiology</b> Chair Mark Wilkinson, Jade Perry
1120-1130	Application of spatial transcriptomics to human osteochondral explants and intervertebral disc tissue to identify molecular pathways during disease. Christine Le Maitre
1130-1140	Using nanopore sequencing to diagnose prosthetic joint infections: a comparison of two methods - Hollie Wilkinson
1140-1150	The lncRNA CASC20 influences differential gene expression during osteogenic differentiation - Phoebe Tamblin-Hopper
1150-1200	Optimising Synovial Fluid Preparation for Gas Chromatography- Mass Spectrometry Metabolomics Analysis for Orthopaedic Research - Yumna Ladha
1200-1210	C. acnes is present in non-herniated human intervertebral discs; what is its influence? - Andrea Nuesch
1210-1220	Understanding the physiological behaviour of disc cells in an in vitro imitation of the healthy and degenerated disc niche – Joseph Snuggs
<b>1220-1345</b>	<b>Lunch, posters and AGM</b>

<b>1345-1415</b>	<b>Keynote 5</b> Prof Martyn Snow – The challenges associated with a cell therapy for cartilage repair, the past, present and future Chair Vee San Cheong
<b>1415-1505</b>	<b>Session 6 New Investigator Award Session</b> Chair Vee San Cheong, Anthony Herbert
1415-1425	Using in-vivo biplane videoradiography to validate tibiofemoral kinematics derived from musculoskeletal models. Lauren Swain
1425-1435	Whole-Organ Computed Tomography Score (WOCT) of the Knee - Jade Perry
1435-1445	Sex differences in osteocyte expression responses to pathological mechanical load may be responsible for the higher burden of osteoarthritic pain in females. Ryan Jones
1445-1455	Mechanobiological model of bone adaption in vertebrae of individual multiple myeloma patients - Fiona Gibson
1455-1505	Association Between Surgeon Grade and Radiographic Implant Alignment in Unicompartmental Knee Replacement - Muhamed Alanie
<b>1505-1530</b>	<b>Coffee</b>
<b>1530-1610</b>	<b>Session 7 Therapeutics</b> Chair David Hamilton and Andrew Phillips
1530-1540	The effect of denosumab on osteoclast precursor cells in postmenopausal women with osteoporosis. - Andrea Fontalis
1540-1550	Development of a Robust Isolation and Culturing Pipeline of Knee Fat Pad-Derived Mesenchymal Stem Cells - Abdulaziz Alghamdi
1550-1600	Osteochondral cell isolation for single-cell RNA sequencing - Joseph Snuggs
1600-1610	Factors Associated With Increased Opioid Consumption Following Total Hip Arthroplasty - Andreas Fontalis
<b>1610</b>	<b>Awards and close</b> Andrew Phillips and Mark Wilkinson

## Poster details

Presenters are asked to attend their posters during the posters/coffee on Monday (AM/PM) and Tuesday (AM)

Posters can be taken down from 3pm on Tuesday

Poster Number	Abstract Number	Abstract title	Presenting Author
1	65	Exploration of chromosomal aberration in ASCOT trial patient cells using eSNP Karyotyping	Abigail Jones
2	15	Primary Synovial Chondromatosis	Hussein Al-Dayyeni
3	52	Development of a Primary Human Chondrocyte Culture Method for the Bioassay of Mesenchymal Stem Cell Secretome	Abdulaziz S. Alghamdi
4	14	Exploring the Microstructural, Tribological, and corrosion characteristics of Titanium-Niobium Pentoxide Composites for Biomedical Applications	Zahid Mukhtar
5	81	Advancing Osteochondral Tissue Supply Chain Transport Conditions for Clinical Allografts	Tomas Link
6	62	Optimizing EDTA Decalcification Protocol for Osteochondral Explants to Maximise Transcriptomic Potential	Je Yin Chooi
7	46	Relationship between the mouse cortical thickness and its failure load evaluated along different loading directions	Saira Farage-O'Reilly
8	63	Activation of the Interleukin-6 Signalling Pathway in Human Osteocytes through the Mechanosensitive Ion Channel, Piezo1	Sophie Gilbert
9	67	INFLUENCE OF MECHANICAL LOADING ON HUMAN OSTEOCHONDRAL TISSUE EXPLANTS	Christine Le Maitre
10	82	An Investigation into the Clinical Utility of Intramedullary Reaming Samples for Diagnosis of Metastatic Bone Disease.	Jamie Ferry
11	5	Does Listing Isolated ACL Repairs as Low Priority Lead to Subsequent Meniscal Pathology?	Matthew Bellamy
12	26	Time and Consent – The Effect of Extended Waiting Lists on the Consent Process	Yousef Hamed
13	39	Preventing periprosthetic joint infection: a novel drug-release sol-gel device coating	Sarah Boyce
14	21	The importance and clinical significance of Kager's fat pad in the diagnosis of acute Tendo Achilles rupture	Imran Azeem
15	25	Minimally Invasive Surgery for Diabetic Foot Disease: A systematic review	Yousef Hamed
16	7	Developing a novel low-cost orthotic intervention to improve functional lower limb biomechanics in people with haemophilia in the global south	Harriet Talbott

17	8	Verification Of Magnetic Resonance Image Based Finite Element Models Of The Ankle	Harriet Talbott
18	77	Does Socioeconomic Status Influence Patient Reported Outcome Measures after Bone Marrow Aspirate Concentrate Treatment of Ankle Cartilage Defects?	Tian Lan
19	19	Atypical Femur Fractures In Post-Menopausal Patients Taking Bisphosphonates and Their Indication When to Start After Holiday Period of 5 Years and Its Effects	Imran Azeem
20	84	Contrast-enhanced ultrasound (CEUS) reveals perfusion of human bone fracture in acute phase healing: a pilot study	Daniel Cadoux-Hudson
21	4	Introducing a new pathway for early management of the paediatric forearm fracture -guided by BOAST- in the emergency department of a trauma unit	Amr Elbahi
22	16	Biomarkers of sarcopenia in patients with hip fracture: A systematic review	Filip Brzeszczynski
23	9	Shall we not pressurise it? Effects of bone cement pressurisation on mortality and revision following hip hemiarthroplasty for neck of femur fracture patients: A comparative cohort study	Muhamed Farhan-Alanie
24	24	Waste Not Want Not: An Assessment of the Environmental Impact of Hip Hemiarthroplasties	Madelyne Mabon
25	20	Optimising Post-op Imaging in HemiArthroplasty	Imran Azeem
26	3	PyCT2S: An Automated Pythonic Approach to CT2S	George Allison
27	36	Mechanical axis image quality of the EOS imaging system compared to digital radiography	Ahmed Alghamdi
28	41	Micro-CT evaluation of thermally transitioned 3D bio-printed bone models	Lucy Dascombe
29	32	Associations between weight loss pre-hip or pre-knee arthroplasty and peri- and post-operative outcomes	Tim Lindsay
30	64	Complex shoulder arthroplasty: a review of glenoid reconstruction with custom patient specific implants	Sheeraz Iqbal
31	37	Evidence of fretting corrosion at the modular shell interface of retrieved ceramic-on-metal bearings for total hip replacement	Mackenzie Smeeton
33	58	It is time we started treating arthroplasty as a life-saving intervention: what have wearables, machine learning, and epidemiology taught us? (The UK Biobank)	Tim Lindsay
34	76	Knee Arthroplasty Documentation Audit Against GIRFT, BASK & BOA Guidelines	Shahrukh Rizvi
35	83	Effect of Chlorhexidine Wound Irrigation in Reducing Early Surgical Site Infection in Implant Orthopaedic Surgeries: A Randomized Clinical Trial	Kenneth Ugwoke, Kenechukwu Igbokwe
36	45	Applications of Artificial Intelligence (AI) to human orthopedic knee data: a systematic scoping review uncovering the true current role of AI in healthcare	Seyedeh Nadia Aghili

37	70	The biomechanical outcomes of fresh osteochondral allograft (FOCA) for articular cartilage defects of the knee – A systematic review	Stephanie Picioreanu
38	71	Risk factors associated with long-term outcome of ACL therapy for Patellofemoral defects	Larissa Rix
39	18	A computational study of the effects of obesity on the inflammatory process in osteoarthritis	Juntong Lai
40	34	Associations between pre-operative clinical data and radiographic osteoarthritis with fatty acids composition in dogs with naturally occurring cranial cruciate ligament disease	Irina Guschina
41	6	Getting It Right Every Time – Compliance with Data and Patient Reported Outcomes on the British Spine Registry from 2018 to 2022.	Matthew Bellamy
42	13	The management of osteoporotic vertebral fractures at a District General Hospital	Monisha Kapilan
43	2	Effectiveness of neural mobilization for cervical radiculopathy: A systematic review of randomized controlled trials	Ahmed Samir
44	29	Cauda Equina Syndrome- Can we get it right first time? An audit of Orthopaedic and Emergency Departments in St Marys Hospital, Isle of Wight	Julian Aquilina
45	66	In-vivo kinematics of the lumbar spine measured using biplane videoradiography and magnetic resonance imaging	David Williams
46	69	Using Mesendoderm Progenitor Cells Seeded in Hydrogel Biomaterial as a strategy to Regenerate the Intervertebral disc	Christine Le Maitre

If you note any errors relating to your presentation/poster, such as nominated author, please email [C.Brockett@sheffield.ac.uk](mailto:C.Brockett@sheffield.ac.uk) with updates.