Final programme

TUESDAY 3 JULY

08:55 *Crombie and Kings Hall residents – bus to AECC*

09:30 Coffee, registration, poster hanging

10:25 **Opening and welcome**
Chair: *Stephen Logan*
Senior Vice-Principal, University of Aberdeen

Professor C Duncan Rice
Principal & Vice-Chancellor of the University of Aberdeen

Bone pain
Chairs: Steven Goldring (New York, USA) and Jonathan Reeve (Cambridge, UK)

10:30 IS1 Acid and bone
Tim Arnett (London, UK)

11:00 IS2 The role of the endocannabinoid system in pain modulation
Ruth Ross (Aberdeen, UK)

11:30 IS3 Cannabinoids and bone
Rob van t'Hof (Edinburgh, UK)

12:00 **Oral communications 1**
Chairs: Tim Arnett (London, UK) and Miep Helfrich (Aberdeen, UK)

12:00 OC1 The endocannabinoids 2-arachidonoyl glycerol and anandamide are produced by bone cells and stimulate bone resorption in vitro
SA Ridge, L Ford, GA Cameron, RA Ross, MJ Rogers*
Bone & Musculoskeletal Research Programme, Institute of Medical Sciences, University of Aberdeen, Aberdeen UK

12:12 OC2 Hypoxia-Inducible Factor and human osteoclasts: evidence for a positive feedback loop regulating osteoclast function
HJ Knowles, NA Athanasou*
Nuffield Department of Orthopaedic Surgery, University of Oxford, Oxford, UK

12:24 OC3 Intrauterine programming of bone-deleterious effects of a low protein diet in late adulthood on the osteogenic environment
SA Lanham[1], C Roberts[1], MJ Perry[2], C Cooper[1], ROC Oreffo[1]*
[1]Bone and Joint Research Group, Developmental Origins of Health and Disease, University of Southampton, Southampton, UK;[2]Department of Anatomy, University of Bristol, UK

12:36 OC4 Differential effect of doxorubicin and zoledronic acid on intra-osseous vs extra osseous breast tumour growth in vivo
PD Ottewell[1], B Deux[2], H Mönkkönen[1], RE Coleman[1], P Clezardin[2], I Holen[1]*
[1]Academic Unit of Clinical Oncology, School of Medicine and Biomedical Sciences, University of Sheffield, UK;[2]INSERM Research Unit 403, Faculté de Medicine Laënnec, 69372 Lyon Cedex 08, France

12:48 OC5 Evaluation of in vivo neovascularisation in allograft and poly D,L-Lactic Acid tissue engineered scaffolds using micro-computer tomography
BJRF Bolland, JM Kanczler, DG Dunlop, ROC Oreffo*
Bone & Joint Research Group, Developmental Origins of Health and Disease, University of Southampton, Southampton SO16 6YD, UK

13:00 Lunch and posters (odd numbers attended 13:30-14:30)

Vesicular trafficking and bone disease
Chairs: Matthew Gillespie (Melbourne, Australia) and Mike Rogers (Aberdeen, UK)

14:30 IS4 Vesicular trafficking in osteoclast biology
Fraser Coxon (Aberdeen, UK)

15:00 IS5 Diseases caused by defects in vesicular trafficking and acidification
Uwe Kornak (Berlin, Germany)

15:30 IS6 Chloride channels as a target for bone therapy
Morten Karsdal (Herlev, Denmark)

16:00 Tea

16:30 **Oral communications 2**

Chairs: Bronwen Evans (Cardiff, UK) and Uwe Kornak (Berlin, Germany)

16:30 OC6 RANKL mutations are responsible for the defective osteoclast formation seen in six patients with osteoclast-poor osteopetrosis

DI Scott[1], FP Coxon[1], C Sobacchi[2], A Frattini [2], A Pangrazio[2], M Guerrini[2], L Susani[2], A Teti[3], C Messina[4], G Errigo[4], M Abinun[5], A Cant[5], N J Bishop[6], P Grabowski[6], RGM Bredius[7], GMS Mancini[8], PM Vezzoni[2], A Villa[2], MJ Rogers[1] , M Helfrich[1]*

[1] Department of Medicine and Therapeutics, University of Aberdeen,UK;[2]Institute of Biomedical Technologies, National Research Council, Segrate, Italy;[3]Department of Experimental Medicine, University of L'Aquila, L'Aquila, Italy;[4]Oncoematologia Pediatrica, Dipartimento di Pediatria, University of Padoa, Padoa, Italy;[5]Children's BMT Unit Newcastle General Hospital and School of Clinical Medical Sciences, Newcastle University, Newcastle upon Tyne, UK;[6]Sheffield Children's Hospital and Academic Unit of Child Health, University of Sheffield, Sheffield, UK;[7]Department of Pediatrics, Leiden University Medical Center, Leiden, The Netherlands;[8]Department of Clinical Genetics, Erasmus University Medical Center, Rotterdam, The Netherlands

16:42 OC7 Downstream signalling pathways of non-canonical (RANKL-independent) pathways of osteoclast formation induced by TNF superfamily members LIGHT and APRIL

F Jones[1], H Knowles[1], NA Athanasou[2]*

[1]Botnar Research Centre, Institute of Musculoskeletal Sciences, Nuffield Department of Orthopaedic Surgery, University of Oxford, Nuffield Orthopaedic Centre, Windmill Road, Oxford, OX3 7LD, UK;[2]Department of Pathology, Nuffield Orthopaedic Centre, Nuffield Department of Orthopaedic Surgery, University of Oxford, Oxford, OX3 7LD, UK

16:54 OC8 Mice with a truncation mutation affecting sequestosome 1 exhibit several phenotypic features in common with Paget's disease of bone

JA Rojas[1], A Daroszewska[1], M Helfrich[2], R Layfield[3], R van't Hof[1], SH Ralston[1]*

[1]University of Edinburgh, Edinburgh, UK;[2]University of Aberdeen, Aberdeen, UK;[3]Institute of Neuroscience, University of Nottingham, Nottingham, UK

17:06 OC9 Targeting osteoclasts in rheumatoid arthritis via the alpha(v)beta(3) integrin

F Brunton[1], L Lee[1], A Nissim[2], AE Grigoriadis[3], C Pitzalis[1]*

[1]Dept Rheumatology, KCL Guy's Hospital, London, UK;[2]William Harvey Research Institute, QMUL, London, UK;[3]Dept Craniofacial Dev, KCL Guy's Hospital, London, UK

17:18 OC10 Supressor of cytokine signalling-2 (SOCS-2) expression in the growth plate: modulation by pro-inflammatory cytokines.

VE MacRae[1], S Pells[1], SF Ahmed[2], C Farquharson[1]*

[1] Roslin Institute, Midlothian, UK;[2]Royal Hospital for Sick Children, Glasgow, UK

17:30 Close

17:40 Crombie and Kings Hall residents – bus from AECC to Halls

18:30 Crombie and Kings Hall residents – bus to Town and County Hall

19:00 **Civic Reception** at the Town and County Hall

WEDNESDAY 4 JULY

07:55 *Crombie and Kings Hall residents – bus to AECC*

Signalling pathways and bone formation
Chairs: Brendon Noble (Edinburgh, UK) and Jon Tobias (Bristol, UK)

08:30 IS7 Control of bone remodeling homeostasis via the autonomous nervous system
Florent Elefteriou (Nashville, USA)

09:00 IS8 Discovery of the fibrodysplasia ossificans progressiva (FOP) gene
Matthew Brown (Brisbane, Australia)

09:30 IS9 Role of sclerostin in BMP and Wnt signalling: implications for bone formation
Wendy Balemans (Antwerp, Belgium)

10:00 **Oral communications 3**
Chairs: Matthew Brown (Brisbane, Australia) and Claire Clarkin (London, UK)

10:00 OC11 An atypical mutation in the activin A receptor, type 1 gene (ACVR1) in a severely affected fibrodysplasia ossificans progressiva patient
KA Petrie, JJ Pointon, R Smith, RGG Russell, PW Wordsworth, JT Triffitt*
Institute of Musculoskeletal Sciences, Botnar Research Centre, University of Oxford, Oxford OX120JH, UK

10:12 OC12 Osteocyte sclerostin expression: regulator of BMU balance in osteoarthritis and osteoporosis?
*N Loveridge[1], J Power[1], A Caballero-Alias[1], R van Bezooijen[2], S Papapoulos[2], C Lowik[2], KE Poole[1], J Reeve[1]**
[1]University of Cambridge, Cambridge, UK;[2]University of Leiden, Leiden, The Netherlands

10:24 OC13 Interrogating the mechanisms controlling osteocytogenesis
M Prideaux[1,2], A Pitsillides[2], L Bonewald[3], N Loveridge[4], C Farquharson[1]*
[1]Roslin Institute, Edinburgh, UK;[2]Royal Veterinary College, London, UK;[3]School of Dentistry, University of Missouri-Kansas City, USA;[4]University of Cambridge, Cambridge, UK

10:36 OC14 Spondyloepiphyseal dysplasia tarda (SEDT)-associated Sedlin mutations disrupt interactions with c-myc promoter-binding protein 1 (MBP-1), pituitary homeobox 1 (Pitx1) and steroidogenic factor 1 (SF1)
MA Nesbit[1], J Jeyabalan[1], HA Ingraham[2], RV Thakker[1]*
[1]Academic Endocrine Unit, Nuffield Department of Clinical Medicine, Oxford Centre for Diabetes, Endocrinology and Metabolism, University of Oxford, UK;[2]Department of Physiology, University of California, San Francisco, California, USA

10:48 OC15 Wnt signalling upregulates osteoblast differentiation in zebrafish: a novel model for studies in osteoblastogenesis
PM Elks, N Li, HH Roehl, PI Croucher*
University of Sheffield, Sheffield, UK

11.00 Coffee

Bone loss and inflammatory arthritis
Chairs: Cyrus Cooper (Southampton, UK) and Richard Keen (London, UK)

11:30 IS10 Determinants of bone destruction in rheumatoid arthritis
Steven Goldring (New York, USA)

12:00 IS11 Role of cytokines and bone: use of *in vitro* models
Matt Gillespie (Melbourne, Australia)

12:30 IS12 Modulation of T cell function in rheumatoid arthritis
Berent Prakken (Utrecht, Netherlands)

13:00 Lunch and posters (even numbers attended 13:30-14:30)

14:30 **Oral communications 4**
Chairs: Kay Colston (London, UK) and Florent Elefteriou (Nashville, USA)

14:30 OC16 The local and sytemic effects of glucocorticoid generation in synovium
RS Hardy [1],EH Rabbitt [1], K Raza [2], CD Buckley [2], PM Stewart [1], MC Cooper [1]*
[1]Division of Medical Sciences, University of Birmingham, West Midlands, UK;[2]Division of Rheumatology, University of Birmingham, West Midlands, UK

14:42 OC17 Auto-induction of IL-1beta and loss of promoter methylation: a possible explanation of the unremitting progression of osteoarthritis?
MB Gibson[1], K Hashimoto[1,2], HI Roach[1]*

[1]Bone & Joint Research Group, University of Southampton, UK;[2]Tohoku University, Sendai, Japan

14:54 OC18 Identification of lipocalin 2, a novel glucocorticoid responsive gene in growth plate chondrocytes
HC Owen[1][2], SF Ahmed[2], C Farquharson[1]*
[1]Bone Biology Group, Roslin Institute, Edinburgh, UK;[2]Bone & Endocrine Research Group, Royal Hospital for Sick Children, Glasgow, UK

15:06 OC19 Childhood physical activity is associated with bone mass at 4 years
N Harvey[1], K Westgate[2], S Brage[2], L Greenaway[1], J Poole[1], E Dennison[1], H Inskip[1], K Godfrey[1], N Wareham[2], U Ekelund[2], C Cooper[1]*
[1]MRC Epidemiology Resource Centre, Southampton, UK;[2] MRC Epidemiology Unit, Cambridge, UK

15:18 OC20 Body Mass Index is more predictive of the osteogenic potential of bone marrow stromal cells than age in males
RM McCann[1], GR Jordan[1], D Beverland[2], SA Clarke[1]*
[1]Trauma Research Group, Queen's University, Belfast, UK;[2]Department of Orthopaedic Surgery, Musgrave Park Hospital, Belfast, UK

15:30 OC21 Genetic manipulation of human mesenchymal progenitors to promote chondrogenesis within polysaccharide templates
JC Babister, RS Tare, DW Green, S Inglis, ROC Oreffo*
Bone & Joint Research Group, Developmental Origins of Health and Disease, University of Southampton, Southampton, SO16 6YD, UK

15:42 OC22 A soluble activin type II receptor prevents myeloma bone disease
AD Chantry[1], D Heath[1], L Coulton[1], O Gallagher[1], H Evans[1], J Seehra[2], K Vanderkerken[3], PI Croucher[1]*
[1]Section of Musculoskeletal Science, University of Sheffield Medical School, Sheffield, UK;[2]Acceleron Pharma, Cambridge, MA, USA;[3]Department Hematology and Immunology, Vrije Universiteit Brussel (VUB), Brussels, Belgium

16:00 Tea

16:30 **Oral posters**

Chairs: Richard Aspden (Aberdeen, UK) and Helen MacDonald (Aberdeen, UK)

16:30 OP1 Segmental bone regeneration using vascular endothelial growth factor encapsulated poly D,L-Lactic Acid scaffolds and human bone marrow stromal cells
JM Kanczler[1], J Barry[2], P Ginty[2], SM Howdle[2], KM Shakesheff[2], ROC Oreffo[1]*
[1] Bone & Joint Group, University of Southampton, UK;[2]School of Pharmacy & Chemistry, University of Nottingham, UK

16:35 OP2 CP55940, a non-selective CB1/CB2 agonist, stimulates bone resorption by human osteoclasts in vitro
L Whyte, S Ridge, R Ross, MJ Rogers*
Aberdeen OBRP Centre, Bone & Musculoskeletal Research Programme, University of Aberdeen, UK

16:40 OP3 Dietary flavonoid intake is associated with bone mineral density in early postmenopausal Scottish women
AC Hardcastle[1,2], JAM Kyle[2], G Duthie[3], G Mc Neill[2], DM Reid[1,2], HM MacDonald[1,2]*
[1]Osteoporosis Research Unit, Health Sciences Building, University of Aberdeen, UK;[2]College of Medicine, University of Aberdeen, UK;[3]Rowett Research Institute, Aberdeen, UK

16:45 OP4 Femoral neck microarchitecture: differences between cases of hip fracture and controls
N Loveridge[1], J Power[1], H Kroger[2], M Parker[3], J Reeve[1]*
[1]Bone Research Group, Cambridge, UK;[2]University Hospital, Kuopio, Finland;[3]District Hospital, Peterborough, UK

16:50 OP5 Chondrocytes in osteoarthritis de-differentiate to a progenitor-like intermediate before re-differentiating to a complex and mixed phenotype
*MA Da Silva, HI Roach**
Bone & Joint Research Group, University of Southampton, General Hospital, Southampton, UK

16:55 OP6 *Abstract Withdrawn*

17:00 OP7 Osteoblasts protect multiple myeloma cells from T-cell-induced apoptosis
RM Locklin*[1], RGG Russell[1], PI Croucher[2], CM Edwards[3]
[1]Institute of Musculoskeletal Sciences, Botnar Research Centre, Nuffield Department of Orthopaedic Surgery, University of Oxford,Oxford, UK;[2]Division of Clinical Sciences, University of Sheffield Medical School, Sheffield, UK;[3]Department of Cancer Biology, Vanderbilt University Medical Center, Nashville, Tennessee, USA

17:05 OP8 The expression and regulation of Bim in osteoblasts undergoing growth factor withdrawal
M Liang, RGG Russell, PA Hulley*
Botnar Research Centre, Nuffield Dept of Orthopaedic Surgery, University of Oxford, UK

17:10 OP9 Novel control of GAG synthesis and chondrogenesis through selective regulation of UDPGD-mediated monosaccharide supply
CE Clarkin, S Allen, BT Wheeler, CPD Wheeler-Jones, AA Pitsillides*
The Royal Veterinary College, London, UK

17:15 OP10 The effect of tensile forces on the differentiation of mesenchymal stem cells
SB Mirza,M Greenwood, G Blunn*
Institute of Orthopaedics, University College London, UK

17:20 OP11 Genetic mutations in the RAS/RAF/MAPKinase pathway results in cherubism
BD Idowu[1], J Mangion[2], RE Gale[3], AM Flanagan[4]*
[1]Institute of Orthopaedics, UCL, London, UK; [2]MRC Clincal Sciences Centre, Imperial College London, UK; [3]Department of Haematology, UCL, London, UK; [4]]Institute of Orthopaedics, UCL, London, UK

17.30 **Keynote Lecture**
Chair: C Duncan Rice
Principal & Vice-Chancellor of the University of Aberdeen

Ethical considerations and medical research: past, present and future
Neva Haites (Aberdeen, UK)
Head of the College of Life Sciences and Medicine

18:10 *Crombie and Kings Hall residents – bus from AECC to Halls*

19:20 *Crombie and Kings Hall residents – bus to Beach Ballroom*

19:45 **Annual Dinner and Ceilidh** in the Beach Ballroom

THURSDAY 5 JULY

08:25 *Crombie and Kings Hall residents – bus to AECC*

Contemporary issues in therapeutics of bone
Chairs: Richard Eastell (Sheffield, UK) and Nick Harvey (Southampton, UK)

09:00 IS13 Role of bisphosphonates in cancer management
Robert Coleman (Sheffield, UK)

09:30 IS14 Bisphosphonates in the management of Paget's disease
Stuart Ralston (Edinburgh, UK)

10:00 IS15 Therapeutic options after bisphosphonates
Graham Russell (Oxford, UK)

10:30 Coffee

11:00 **Oral communications 5**
Chairs: Mark Cooper (Birmingham, UK) and Graham Russell (Oxford, UK)

11:00 OC23 Height loss predicts fractures in middle aged and older men and women: the EPIC-Norfolk prospective population study
A Moayyeri[1], RN Luben[1], S Bingham[2], A Welch[1], NJ Wareham[3], KT Khaw[1]*
[1]Department of Public Health and Primary Care, Institute of Public Health, School of Clinical Medicine, University of Cambridge, Cambridge, UK;[2]MRC Dunn Human Nutrition Unit , Cambridge, UK;[3]MRC Epidemiology Unit, Cambridge, UK

11:12 OC24 Autologous conditioned serum (ACS) compared to hyaluronan and saline-injections for the treatment of knee osteoarthritis
C Moser[1,2], AWA Baltzer[2], R Krauspe[1], P Wehling [2]*
[1]Department of Orthopaedics,Heinrich Heine University Hospital Duesseldorf, Germany;[2]Centre for Molecular Orthopaedics, Königsallee 53-55, Duesseldorf, Germany

11:24 OC25 An international multicenter randomized comparison of balloon kyphoplasty and nonsurgical care in patients with acute vertebral body compression fractures
D Wardlaw[1], S Boonen[2], L Bastian[3], J Van Meirhaeghe[4], AZ St Jan[4]*
[1]Department of Orthopaedics, Woodend Hospital, Eday Road, Aberdeen, UK;[2]UZ Gasthuisberg, Herestraat 49, 3000 Leuven, Belgium;[3]Medizinische Hochschule Hannover, Unfallchirurgie, Carl Neuberg Str. 1, 30625 Hannover, Germany;[4]Dept Orhopaedics, Ruddershove 10, 8000 Brugge, Belgium

11:36 OC26 Muscle function and the effects of hypovitaminosis D in post-menarchal females
KA Ward[1], G Das[2], JL Berry[1], SA Roberts[1], R Rawer[3], JE Adams[1], MZ Mughal[4]*
[1]University of Manchester, Manchester, UK;[2]Central Manchester Primary Care Trust, Manchester, UK;[3]Novotec Medical, Manchester, UK;[4]Central Manchester & Manchester Childrens University Hospitals NHS Trust, Manchester, UK

11:48 OC27 Effect of the dual-specific Src/Abl kinase inhibitor AZD0530 on bone turnover in patients with advanced solid malignancies
RA Hannon[1], G Clack[2], RB Iacona[3], P Baker[2], M Rimmer[2], F Gossiel[1], IC Smith[2], A Robinson [2], R Eastell[1]*
[1]Academic Unit of Bone Metabolism, University of Sheffield, Sheffield, UK;[2]AstraZeneca, Alderley Park, Macclesfield, UK;[3]AstraZeneca, Wilmington, Delaware, USA

12:00 **Clinical cases**
Chairs: Piet Geusens (Maastricht, Netherlands) and Stuart Ralston (Edinburgh, UK)

12:00 CC1 Severe high turnover osteoporosis of unknown cause in a young man with autoimmune hypothyroidism ; a novel syndrome?
PL Riches, E McRorie, SH Ralston*
Centre for Rheumatic Diseases, Western General Hospital, Edinburgh, UK

12:15 CC2 Residual (Ghost) sockets in intravenous bisphosphonate use - evidence of poor healing and slow bone turnover
K Shetty, J Buoquot*
University of Texas Health Science Center, Houston, US

12:30 CC3 Bone pain from chronic sclerosing osteomyelitis successfully treated with risedronate
SE Green[1], RW Keen[2]*
[1] Rheumatology Department, Ysbyty Gwynedd, Bangor, Gwynedd, LL57 2PW, UK;[2]Royal National Orthopaedic Hospital, Stanmore, Middlesex, HA7 4LP, UK

12:45 CC4 Osteoclast activity in childhood acute lymphoblastic leukaemia (ALL) during the first year of treatment
RM Cox[1], JW Gregory[1], JH Davies[2], MEM Jenney[3], WD Fraser[4], BAJ Evans[1]*

[1]Department of Child Health, School of Medicine, Cardiff University, Cardiff, UK;[2]Southampton University Hospital NHS Trust, Southampton, UK;[3]Paediatric Oncology, University Hospital of Wales, Cardiff, UK;[4]Clinical Chemistry, University of Liverpool, Liverpool, UK

13:00	Lunch
13:30	BRS AGM
	Bone and rheumatoid arthritis Chairs: David Reid (Aberdeen, UK) and *tbc* *Generously supported by an unrestricted educational grant from Amgen*
14:00	Assessment of bone loss in the prediction of long-term disease activity in rheumatoid arthritis *Paul Emery (Leeds, UK)*
14:30	Role of RANK/RANKL pathway in the bone loss of rheumatoid arthritis *Kurt Redlich (Vienna, Austria)*
15:00	Potential for RANKL inhibition in the management of rheumatoid arthritis *Piet Geusens (Maastricht, Netherlands)*
15:30	Close
15:40	*Buses from AECC to Aberdeen Airport*

POSTERS

P12 Nitrogen-containing bisphosphonates and prediction of their clinical potencies: dissociation of target enzyme- and hydroxyapatite-binding affinities
Z Xia[1], J Dunford[1], MA Lawson[1], JT Triffitt[1], K Kavanagh[1], U Oppermann[1], BL Barnett [2], FH Ebetino[2], RGG Russell[1]*
[1]The Oxford University Institute of Musculoskeletal Sciences, The Botnar Research Centre, Nuffield Orthopaedic Centre, Oxford,OX3 7LD, UK;[2]New Drug Development, Procter and Gamble Pharm, Cincinnati OH, USA;[3]Chemistry Department, University of Southern California, Los Angeles, CA, USA

P13 Mcl-1 is an important pro-survival factor in osteoclasts
*K McConachie, D Tosh, MJ Rogers**
University of Aberdeen, Aberdeen, UK.

P14 Adenosine stimulates mineralisation of rat mesenchymal stem cells in vitro
B Gharibi[1,2], C Elford[1], J Ham[2], BAJ Evans[1]*
[1]Department of Child Health, School of Medicine, Cardiff University, Heath Park, Cardiff CF14 4XN, UK;[2]Centre for Endocrine and Diabetes Research, School of Medicine, Cardiff University, Heath Park, Cardiff CF14 4XN, UK

P15 Compartmentalisation of GFP-tagged ER-alpha and ER-GR constructs in bone (ROS) and breast (MCF-7) cells
BS Maru[1], MR Norman[1], JH Tobias[2], CA McArdle[1]*
[1]Dorothy Hodgkin Building, University of Bristol, Whitson Street, Bristol, UK;[2]Rheumatology Unit, Bristol Royal Infirmary, Marlborough Street, Bristol, UK

P16 Osteopenia in 129Sv/Ev Sparctm1cam mice: bone phenotypic characterization and gene expression changes
FC Mansergh[1], T Wells[1], C Elford[2], SL Evans[3], MJ Perry[4], MJ Evans[1], BAJ Evans[2]*
[1]School of Biosciences, Cardiff University, Museum Avenue, Cardiff CF10 3US, UK;[2]Department of Child Health, School of Medicine, Cardiff University, Heath Park, Cardiff CF14 4XN, UK;[3]School of Engineering, Cardiff University, The Parade, Cardiff CF24 3AA, UK;[4]Department of Anatomy, University of Bristol, Bristol BS2 8EJ, UK

P17 SB431542, a TGF-beta type 1 receptor inhibitor, promotes C2C12 myotube hypertrophy
K Watt, A Ratkevicius. H Wackerhage*
Bone Research Group, Institute of Medical Sciences, University of Aberdeen, UK

P18 Polymorphic variation in the FPP synthase (FPPS) gene and effects on bisphosphonate inhibition
C Roemelt[1], F McGuigan[2], J Dunford[3], O Albagha[4], MJ Rogers[1]*
[1]Bone & Musculoskeletal Research Programme, Institute of Medical Sciences, University of Aberdeen, Aberdeen, UK;[2]Clinical & Molecular Osteoporosis Research Unit, Malmö University Hospital Malmö, Sweden SE-205 02;[3]Structural Genomics Consortium, University of Oxford, Oxford OX3 7LD, UK;[4]Rheumatology Section, Molecular Medicine Centre, University of Edinburgh School of Molecular and Clinical Medicine, Western General Hospital, Edinburgh, EH4 2XU, UK

P19 Human osteoclast formation and activity on bone substitute biomaterials
V Perrotti[1,2], BM Nicholls[1], MA Horton[1], A Piattelli[2]*
[1]University College London, Bone and Mineral Centre, London, UK;[2]University of Chieti-Pescara, Dental School, Chieti, Italy

P20 Zoledronate potently inhibits the growth, survival and activity of normal rat osteoblasts
IR Orriss, JC Utting, ML Key, A Brandao-Burch, KW Colston, TR Arnett*
Department of Anatomy and Developmental Biology, University College London, London, UK

P21 Differential vascular endothelial growth factor receptor expression during osteogenesis
G Kirmizidis[1], JH Lakey[2], MA Birch[1]*
[1]Musculoskeletal Research Group, Newcastle University, Newcastle upon Tyne, UK;[2]Institute for Cell and Molecular Biosciences, Newcastle University, Newcastle upon Tyne, UK

P22 Bone formation and fibrocartilage regeneration at bone tendon junction with allogeneic cultured chondrocyte pellet interposition
MWN Wong[1], KO Tai[1], KM Lee[2], L Qin[1], KS Leung[1]*
[1]Department of Orthopaedics and Traumatology;[2]Lee Hysan Research Laboratory, The Chinese University of Hong Kong, Hong Kong, Hong Kong Special Administrative Region of China

P23 Bcl-2-associated athanogene-1: A transcriptional regulator mediating chondrocyte survival and differentiation during endochondral ossification
RS Tare[1], PA Townsend[2], GK Packham[3], S Inglis[1], ROC Oreffo[1]*
[1]Bone & Joint Research Group;[2]Human Genetics;[3]Cancer Sciences, University of Southampton, Southampton General Hospital, Southampton SO16 6YD, UK

P24 Nitric oxide regulates expression of Class 3 semaphorins in mouse osteoblasts
A Hughes[1], M Helfrich[1], SH Ralston[2], MJ Rogers[1]*
[1]Bone & Musculoskeletal Research Programme, Institute of Medical Sciences, University of Aberdeen, Foresterhill, Aberdeen, AB25 2ZD, UK;[2]Molecular Medicine Centre, Western General Hospital, Crewe Road West, Edinburgh, EH4 2XU, UK

P25 Differential effects of alpha-halogenation on the potency of bisphosphonates and phosphonocarboxylates for inhibition of their target enzymes
CA Stewart[1], JE Dunford[2], Z Xia[2], R Baron[3], MS Marma[4], BA Kashemirov[4], CE McKenna[4], FH Ebetino[5], FP Coxon[1]*

[1]Bone Research Group, Institute of Medical Sciences, University of Aberdeen, AB25 2ZD, UK;[2]Botnar Research Centre, University of Oxford, UK;[3]Imperial College, London, UK;[4]Dept. of Chemistry, University of Southern California, Los Angeles, CA, USA;[5]Procter & Gamble Pharmaceuticals, Cincinnati OH, USA

P26 Un-coupling of bone turnover markers following glucocorticoid therapy for exacerbations of inflammatory bowel disease

MH Kriel*[1], CS Probert[1], WD Fraser[2], JH Tobias[1]
[1]University of Bristol, Bristol, UK;[2]University of Liverpool, Liverpool, UK

P27 Bone prophylaxis in steroid therapy: Are we doing enough?

T Dugal[1],B Hameed*[1],S Jawed[2]
[1]St Georges Hospital Tooting, London;[2]St Thomas's Hospital London;[3]Kingston Hospital London

P28 The pharmacology and putative function of BK channels in human osteoblast-like cells

B Li*[1], BAJ Evans[2], KT Wann[1]
[1]Welsh School of Pharmacy, Cardiff University, Redwood Building, King Edward VII Ave, Cardiff CF10 3XF, UK;[2]Department of Child Health, School of Medicine, Cardiff University, Heath Park, Cardiff CF14 4XN,UK

P29 Detection of acoustic emissions to assess press-fit stability and fracture propagation during the insertion of a simulated implant for cementless hip replacement.

BP Tweedie*, AY Muir, HA Simpson
Edinburgh Orthopaedic Engineering Centre, Chancellor's Building,
University of Edinburgh, UK

P30 Gas6 and Axl receptor tyrosine kinase are expressed by growth plate chondrocytes and osteoblasts

L Ronaldson*[1,2], A Canfield[2], C Farquharson[1]
[1]Gene Function and Development, Roslin Institute, Roslin, Midlothian, UK;[2]Cardiovascular and Endocrine Sciences, School of Medicine, University of Manchester, Manchester, UK

P31 The use of skeletal age to verify chronological age in youth football players

M Johnson*[1], P Doherty[2], AJ Freemont[3]
[1]Manchester United Football Club, Manchester, UK;[2]York St John University, York, UK[3]Manchester University, Manchester, UK

P32 Extent of vitamin D insufficiency in young British women: influence on bone health

JL Berry[1]*, DP Pattison[2] AD Woolf[2], SA Lanham-New[3]
[1]University of Manchester, UK;[2]University of Plymouth, UK;[3]University of Surrey, UK

P33 Does hip arthritis limit the life expectancy in the elderly: A comparative study of operated and non-operated groups of patients suffering from hip osteoarthritis

SVM Karuppiah, A Dhaliwal, WM Ledingham
Department of Orthopaedics, Grampian University Hospitals Trust, Woodend Hospital, Eday Road Aberdeen AB25 2ZN, Scotland, UK

P34 The subcellular localisation of FEO-RANK is altered when co-expressed with wildtype RANK protein in vitro

JC Crockett*, M Helfrich, MJ Rogers
Bone Research Group, Institute of Medical Sciences, University of Aberdeen, UK

P35 Altered lipid content in osteoarthritic femurs, assessed using MRI

T Ahearn, JS Gregory*, TW Redpath, RM Aspden, JD Hutchison, S Semple, D Younie, D Knight, FJ Gilbert
University of Aberdeen, UK

P36 Changes in structural properties lead to reduced bone strength in Gunmetal mice

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P37 Inter and Intra-observer repeatability of Kellgren-Lawrence grading for osteoarthritis using DXA images

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P38 Assessment of osteoporosis and osteoarthritis using active shape and active appearance models with DXA scans

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P39 Atypical pharmacology of P2X7 receptors in human osteoblasts

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P40 eNOS knock out mice show reduced translocation of beta-Catenin to the nucleus when stimulated with pulsatile or oscillating fluid flow

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P41 The role of p21CIP1/WAF1 in glucocorticoid induced growth retardation

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P42 Variation in Wnt-7a is unlikely to be a cause of familial Congenital Talipes Equinovarus
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P43 Effects of ageing on cortical and trabecular bone in radius and tibia: a high-resolution pQCT study
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P44 Bone marrow stromal cells and biomimetic collagen-hydroxyapatite scaffolds for skeletal tissue engineering
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P45 A nouvelle method of application of tensile forces to mesenchymal stem cells
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P46 Regulation of osteogenic marker gene expression by growth hormone in osteoblastic cells derived from human alveolar bone is donor age-dependent
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P47 High Density Polyethylene as a substitute for bones in biomechanical studies
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P48 Cortical and trabecular bone from mice compared by Raman spectroscopy
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P49 The mechanical, material and chemical properties of cortical bone from nNOS null mice
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P50 The effects of zoledronate on iliac bone remodelling in stroke patients
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P51 Serum markers of bone turnover: a novel approach to monitoring the natural history of Charcot Osteoarthropathy
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P52 The use of statins in tissue engineering to enhance human bone cell culture
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P53 Cultured osteoblasts from osteoarthritic and osteoporotic patients display differential gene expression profiles
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P54 Bone marrow quantification using 3.0 tesla magnetic resonance imaging
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P55 Habitual physical activity and osteoarthritis: How can we best investigate whether there is a link between them?
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P56 Sample size requirements for bone density precision assessments and effect on patient misclassification: a Monte Carlo simulation study
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P57 Wnt signalling in bone in osteoarthritis and osteoporosis
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P58 Key determinants of bone mineral density in exercising young women
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P59 Metal debris produced during total knee replacement: differences between metal and ceramic cutting jigs

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P60 Lack of effect of alendronate therapy on circulating osteoclast precursor cell populations and their osteoclastogenic cytokine receptors

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P61 Tumour cell-bone marrow stromal cell interactions modify expression of Cathepsin K, ADAMTS-15, TIMP-3 and osteoprotegerin (OPG)

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P62 A functional RNAi screening for Runx2-regulated genes corresponding to ectopic bone formation in human spinal ligaments

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P63 The pattern of procalcitonin in uncomplicated total hip and knee arthroplasty and its implication in periprosthetic infection

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P64 The importance of parathyroid hormone (PTH) assessment in the treatment of autosomal dominant hypophosphataemic rickets

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