Annual Meeting

25-26 June 2014
Sheffield, UK

Final Programme
Bone Research Society

www.brsoc.org.uk

The Society (formerly known as the Bone and Tooth Society) is the oldest and largest scientific society in Europe dedicated to further research into clinical and basic science problems related to mineralised tissues. The BRS Annual Meeting attracts a wide audience from throughout the UK and also from continental Europe and further afield. The presentations are traditionally a balance between clinical and laboratory-based studies. The participation of young scientists and clinicians is actively encouraged.

Committee 2013/14
Tim Arnett (London) (President)
Alison Gartland (Sheffield) (Secretary)
Jim Gallagher (Liverpool) (Treasurer)
Eugene McCloskey (Sheffield) (President-Elect)

Gavin Clunie (Cambridge)
Fraser Coxon (Aberdeen)
James Edwards (Oxford)
Celia Gregson (Bristol)
Isabel Orriss (London)
Gudrun Stenbeck (Brunel)
Adam Taylor (Lancaster)
Kate Ward (Cambridge)

Membership
For membership enquiries email info@brsoc.org.uk

Future meetings

BRS Clinical Training Course: Osteoporosis and Other Metabolic Bone Diseases

BRS 2015 (jointly with the British Society for Matrix Biology)
1-3 September 2015
Edinburgh, UK

For further details on all BRS activities and events please see www.brsoc.org.uk
Award winners

Congratulations to all the BRS Award Winners at the Sheffield meeting:

New Investigator Awards:
(awarded prior to the meeting, based on scores achieved during the blind review process)

OC4 - M-T Haider (Sheffield) - Tumour cells home to osteoblast-rich areas – effects of a single dose of Zoledronic acid on the bone metastatic niche in vivo

OC6 - I Huggins (Sheffield) - A role for P2X7 in lysyl oxidase mediated osteoclastic lesion formation and bone remodelling.

OC20 - J Misra (Sheffield) - Novel effects of bisphosphonates on stem cells and tissue regeneration

OC18 - S Olechnowicz (Oxford) - Apolipoprotein-A1 deficiency is associated with bone loss in vivo: a new target for musculoskeletal disorders

OC5 - S Rao Rao (Oxford) - MiR-373 inhibits functional osteomimicry in osteoblastic prostate cancer cells

OC13 - M Vazequez (Cardiff) - A three-dimensional bone model that incorporates mechanical loading for therapeutic testing.

OC19 - P Vickerton (Liverpool) - Biomechanical impact of localised bone adaptation

ASBMR Travel Grants:
(awarded prior to the meeting to New Investigator ASBMR members residing outside of the UK to attend the Sheffield meeting. Awards based on scores achieved during the blind review process)

P4 - A Green (Fitzroy, Australia) - Retinoic Acid Receptor (RAR) agonists inhibit and RAR antagonists potentiate osteoblastic differentiation of mesenchymal progenitor cells

P66 - Y Zhou (Newark, USA) - Bisphosphonate can rescue cartilage from trauma damage by regulating the metabolic activities of chondrocytes

On site awards for Best Poster, Best Oral Communication and Best Oral Poster to be announced at the end of the meeting (2 for each category)
Bone Research Society/Mellanby Centre for Bone Research
Pre-meeting Workshops
*Venue: The University of Sheffield Medical School*

**13:00-14:30**

**New Investigator Workshop**
A guide to successfully presenting your work at a scientific meeting
Celia Gregson (Bristol, UK)/Adam Taylor (Lancaster, UK)
With Gaynor Miller (Sheffield, UK)

**14:30-15:30**

**Systems Biology Seminar**
Tom Kirkwood (Newcastle upon Tyne, UK)
Carole Proctor (Newcastle upon Tyne, UK)

**15:30-17:00**

**Concurrent Workshops**

**In vivo CT**
Ilaria Bellantuono, Maya Boudiffa, Les Coulton (Sheffield, UK)

**All you ever wanted to know about bone histopathology**
David Hughes (Sheffield, UK)

**Muscle and Bone**
Alex Ireland (Manchester, UK)/Kate Ward (Cambridge, UK)
With Mark Edwards (Southampton, UK)/Nigel Loveridge (Cambridge, UK)

**Generously supported by Novotec Medical***

**17:15-19:00**

Accommodation check-in, registration and networking
*Venue: The Edge*

**19:15-22:30**

**Rare Bone Diseases Workshop**
*Venue: Rutland Hotel*

In association with Arthritis Research UK Rare Bone Disease Topic Specific Group (Metabolic Bone Disease Clinical Studies Group) and Findacure

Chairs: **Gavin Clunie** (Cambridge, UK)/**Jim Gallagher** (Liverpool, UK)

**Eileen Shore** (Philadelphia, USA) Why study rare bone diseases?

**Michael Whyte** (St Louis, USA): The USA perspective

**Kassim Javaid** (Oxford, UK): The NIHR rare disease musculoskeletal translational research collaboration

**Mike Briggs** (Newcastle-upon-Tyne, UK): ‘ESDN’, ‘EuroGrow’ & ‘SYBIL’ – 15+ years of EU network approaches for diagnosis and research of rare skeletal diseases

**Nick Bishop** (Sheffield, UK): Setting up an international consortium to facilitate research into paediatric bone diseases

**Lakshminarayan Ranganath** (Liverpool, UK): Progress in black bone disease, the National Alkaptonuria Centre and DevelopAKUre

**Nick Sireau** (Findacure): Building collaboration in rare disease research

**Gavin Clunie** (Cambridge, UK): Opportunities for optimising management of, and research in, rare bone diseases from UK NHS Specialised Services Commissioning
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:00-09:50</td>
<td>Registration and coffee</td>
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<td>09:50</td>
<td>Welcome and Opening remarks</td>
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<td>Tim Arnett (London, UK)/Eugene McCloskey (Sheffield, UK)</td>
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<td>10:00-11:00</td>
<td>Symposium 1</td>
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<td>What have the engineers ever done for us?</td>
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<td>Generously supported by Mindways QCT*</td>
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<td>Chairs:</td>
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<td></td>
<td>Damien Lacroix (Sheffield), UK/Katherine Staines (Edinburgh, UK)</td>
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<tr>
<td>IS1</td>
<td>Something in the way she moves</td>
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<td>Claudia Mazzà (Sheffield, UK)</td>
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<td>IS2</td>
<td>What have the engineers ever done for us? Clinical applications of engineering principles</td>
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<td>Ken Poole (Cambridge, UK)</td>
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<td>11:00-11:30</td>
<td>Oral Communications</td>
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<td>Chairs:</td>
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<td>Claudia Mazzà (Sheffield, UK/Ken Poole (Cambridge, UK)</td>
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<tr>
<td>OC1</td>
<td>Focal osteoporosis in the trabeculae of the femoral head in hip fracture</td>
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<td>L Skingle*[^1], F Jóhannesdóttir[^2], PM Mayhew[^1], K Blesic[^1], KES Poole[^3]</td>
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<td>[^1]Department of Medicine, Cambridge NIHR Biomedical Research Centre, Cambridge, UK;[^2]Department of Medicine, University of Cambridge, Cambridge, UK</td>
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<tr>
<td>OC2</td>
<td>Placental size is associated differentially with postnatal bone size and volumetric density</td>
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<td>C Holroyd[^1], C Osmond[^1], DJP Barker[^1], S Ringe[^2], D Lawlor[^2], J Tobias[^3], G Davey Smith[^4], C Cooper[^1,4], NC Harvey[^1,4]</td>
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<td>[^1]MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, UK;[^2]MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK;[^3]Academic Rheumatology, Musculoskeletal Research Unit, Avon Orthopaedic Centre, Bristol, UK;[^4]NIHR Southampton Biomedical Research Centre, University of Southampton and University Hospital Southampton NHS FT, Southampton, UK;[^5]NIHR Musculoskeletal Biomedical Research Unit, University of Oxford, Oxford, UK</td>
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<td>OC3</td>
<td>Which model of FRAX to use in immigrant populations: results from an analysis in Sweden</td>
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<td>EV McCloskey*[^1], A Oden[^1], H Johansson[^1], M Lorentzon[^1], M Karlsson[^3], JA Kanis[^1], D Mellstrom[^5]</td>
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<td>[^1]WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, UK;[^2]University of Gothenberg, Gothenberg, Sweden;[^3]Lund University, Malmo, Sweden</td>
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<tr>
<td>11:30-12:30</td>
<td>Posters – odd numbers manned</td>
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<td>12:30-13:30</td>
<td>Lunch</td>
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<td>13:10-13:30</td>
<td>BRS AGM</td>
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</table>
13:30-14:30  **Oral Communications**

Chairs:
James Edwards (Oxford, UK)/Shelley Lawson (Sheffield, UK)

**OC4**
Tumour cells home to osteoblast-rich areas – effects of a single dose of Zoledronic acid on the bone metastatic niche in vivo
M.T Haider*[1], I. Holen*[1], H.K. Brown*[1]
*[1]CR-UK/YCR Sheffield Cancer Research Centre, Medical School, University of Sheffield, Sheffield, UK

**OC5**
MiR-373 inhibits functional osteomimicry in osteoblastic prostate cancer cells
SR Rao*[1], P Kratschmer*[2], JR Edwards*[1], FC Hamdy*[1], CM Edwards*[1,2]
*[1]Nuffield Department of Surgical Sciences, University of Oxford, Oxford, UK; 
*[2]Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Scien, University of Oxford, Oxford, UK

**OC6**
A role for P2X7 in lysyl oxidase mediated osteoclastic lesion formation and bone remodelling
ID Huggins*[1], P Ottewell*[1], RMH Rumney*[1], TR Cox*[1], JT Erler*[2], A Gartland*[1]
*[1]The Mellanby Centre for Bone Research, Dept. of Human Metabolism, University of Sheffield, Sheffield, UK; 
*[2]Biotech Research and Innovation Centre, University of Copenhagen, Copenhagen, Denmark

**OC7**
Androgen treatment accelerates the calcification of vascular smooth muscle cells
D Zhu*[1], PWF Hadoke*[1], LB Smith*[1], VE MacRae*[1]
*[1]Developmental Biology, The Roslin Institute and R(D)SVS, University of Edinburgh, Edinburgh, UK; 
*[2]Centre for Cardiovascular Science, The Queen's Medical Research Institute, University of Edinburgh, Edinburgh, UK; 
*[3]Chair of Genetic Endocrinology, MRC Centre for Reproductive Health, University of Edinburgh, Edinburgh, UK

**OC8**
Activation of the P2Y2 receptor enhances osteoclast function by stimulating the release of ATP, a pro-resorptive extracellular nucleotide
IR Orriss*[1], MOR Hajjawi*[1], TR Arnett*[2]
*[1]Comparative Biomedical Sciences, The Royal Veterinary College, London, UK; 
*[2]Department of Cell and Developmental Biology, University College London, London, UK

**OC9**
Liraglutide, a glucagon-like peptide-1 receptor agonist improves bone mass and architecture in ovariectomised mice
M Pereira*[1], J Jeyabalan*[1], C Jørgensen*[1], M Cleasby*[1], M Hopkinson*[1], C Chenu*[1]
*[1]Comparative Biomedical Sciences, Royal Veterinary College, London, UK

14:30-15:30  **Oral Posters**

Chairs:
Eugene McCloskey (Sheffield, UK)/Gudrun Stenbeck (Brunel, UK)

**OP1**
Starting on an unequal footing: walking onset age and bone strength in toddlers
A Ireland*[1], J Rittweger*[2], E Schönau*[3], C Lamberg-Allardt*[4], H Viljakainen*[4]
*[1]School of Healthcare Science, Manchester Metropolitan University, Manchester, UK; 
*[2]Institute of Aerospace Medicine, German Aerospace Centre, Cologne, Germany; 
*[3]Department of Pediatric Endocrinology and Diabetics, Children's Hospital, Cologne, Germany; 
*[4]Department of Food and Environmental Sciences, University of Helsinki, Helsinki, Finland
OP2
The effect of nitrogen containing bisphosphonates, zoledronate and alendronate, on the production of pro-angiogenic factors by osteoblastic cells
S Ishtiaq*[1], S Edwards[2], A Sankalingam[1], B Evans[3], M Frost[2], I Fogelman[2], G Hampson[1,2]

OP3
Does bone density, bone strength, sarcopenia or dynapenia explain greater risk of fracture in obesity?
AL Evans*[1], R Eastell[1], JS Walsh[1]
[1]Academic Unit of Bone Metabolism, University of Sheffield, Sheffield, UK

OP4
Fragmenting densely mineralised acellular protrusions from articular calcified cartilage: a role in osteoarthritis?
A Boyle*[1], GR Davis[1], D Mills[1], T Zikmund[1], VI. Adams[2], LR Ranganath[1], N Jeffery[2], JA Gallagher[2]

OP5
Understanding the roles of PHOSPHO1 and SMPD3 in the initiation of skeletal mineralisation
DA Houston*[1], JL Millan[2], C Huesa[1], VE MacRae[1], C Farquharson[1]
[1]Developmental Biology division, The Roslin Institute, Edinburgh, UK; [2]Sanford Children's Health Research Center, Sanford-Burnham Medical Research Institute, La Jolla, USA

OP6
TGF-β suppression with a neutralizing antibody increases vertebral body strength
J Nyman*[1,2,3], S Uppuganti[1], B Rowland[2], A Merkel[4], A Makowski[1,3], D Perrien[1,2], J Sterling[1,2,4]

OP7
Phospho1 deficiency transiently modifies bone architecture yet produces consistent modification in osteocyte differentiation and vascularization with ageing
B Javaheri*[1], A Carriero[2], S Shefelbine[2], J Millan[3], K Oldnour[4], C Farquharson[4], A Pitsillides[1]
[1]CBS, The Royal Veterinary College, London, UK; [2]Bioengineering, Imperial College, London, UK; [3], Burnham Institute, San Diego, USA; [4], The Roslin Institute, Edinburgh, UK

OP8
Defining the molecular effects of disease-causing mutations in RANK using human protein expression models
S Das*[1], A Duthie[1], J Bramham[2], J Crockett*[1]

OP9
Tissue engineering hypertrophic cartilage for bone regeneration
K Bardsley*[1], C Freeman[1], IM Brook[1], PV Hatton[1], A Crawford*[1]
[1]School of Clinical Dentistry, University of Sheffield, Sheffield, UK

OP10
Ethnicity and bone in South African adolescents: longitudinal analysis of size and volumetric density using peripheral quantitative computed tomography (pQCT)
S Schoenbuchner*[1,2], K Ward[1], S Norris[2], A Prentice[1], L Micklesfield[2], J Pettifor[2]
OP11  Treatment with allopurinol and oxypurinol promotes osteoblast differentiation and increases bone formation

IR Orriss*[1], TR Arnett[2], J George[3], M Witham[3]


15:30-16:15  Coffee and Posters

16:15-17:15  Symposium 2
Lessons to be learned from rare bone diseases

Generously supported by Alexion*

Chairs:
Jim Gallagher (Liverpool, UK)/Celia Gregson (Bristol, UK)

IS3  Fibrodysplasia ossificans progressiva - genetics is just the start
Eileen Shore (Philadelphia, USA)

IS4  FGF-23 as a therapeutic target: lessons from rare diseases
Michael Whyte (St Louis, USA)

17:15-17:45  Charles Dent Lecture

Chairs:
Allie Gartland (Sheffield, UK)/Eugene McCloskey (Sheffield, UK)

PTHrP, from cancer hormone to multifunctional cytokine
Jack Martin (Melbourne, Australia)

17:45  Break

18:00-19:00  Symposium 3
Osteoporosis treatments: the Elixir of Life?

Generously supported by MSD*

Chairs:
Sarah Hardcastle (Bristol, UK)/Graham Russell (Oxford and Sheffield, UK)

IS5  Osteoporosis treatments: the elixir of life? A clinical context
Ken Lyles (Durham, USA)

IS6  Osteoporosis treatments: the elixir of life? A scientific context
Ilaria Bellantuono (Sheffield, UK)

20:00  BRS Annual Dinner: BBQ
Music from The Zeros

The Ridge, Ranmoor Student Village, Shore Lane, Sheffield S10 3AY
<table>
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<tr>
<th>Time</th>
<th>Session Description</th>
<th>Chairs</th>
<th>Authors</th>
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<tr>
<td>08:30-09:30</td>
<td><strong>Symposium 4</strong>&lt;br&gt;Osteocytes&lt;br&gt;Generously supported by Amgen and UCB*</td>
<td>Chairs:&lt;br&gt;Nigel Loveridge (Cambridge, UK)/Isabel Orriss (London, UK)</td>
<td>IS7&lt;br&gt;Insights into osteocyte biology using novel culture techniques&lt;br&gt;*Bronwen Evans (Cardiff, UK)&lt;br&gt;IS8&lt;br&gt;Clinical aspects of pharmacological manipulation of sclerostin signalling&lt;br&gt;*Bente Langdahl (Aarhus, Denmark)</td>
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</table>
| 09:30-10:30| **Oral Communications**<br>Chairs:<br>Bronwen Evans (Cardiff, UK)/Bente Langdahl (Aarhus, Denmark) |                                                                                             | OC10<br>Stabilisation of E11 protein accelerates osteocyte differentiation and protects against osteoarthritis pathology<br>*KA Staines, M Prideaux, N Loveridge, DJ Buttle, AA Pitsillides, C Farquharson<br>[Developmental Biology, Roslin Institute, The University of Edinburgh, Edinburgh, UK;<br>Orthopaedics and Trauma, The University of Adelaide, Adelaide, Australia;<br>Orthopaedic Research Unit, University of Cambridge, Cambridge, UK;<br>Department of Infection and Immunity, The University of Sheffield, Sheffield, UK;<br>Comparative Biomedical Sciences, Royal Veterinary College, London, UK]<br>OC11<br>Relating neurotransmitter signals to mechanical loads in human bone<br>*DJ Mason, C Wilson, C Bonnet, H Ozturk, G Whatling, C Holt<br>[School of Biosciences, Cardiff University, Cardiff, UK;<br>Cardiff and Vale Orthopaedic Centre, Llandough Hospital, Cardiff, UK;<br>School of Engineering, Cardiff University, Cardiff, UK;<br>Arthritis Research UK Biomechanics and Bioengineering Centre, Cardiff University, Cardiff, UK]<br>OC12<br>Remote controlled mechanotransduction via magnetic nanoparticles promotes osteogenesis; applications for injectable cell therapy<br>*JR Henstock, M Rotherham, AJ El Haj<br>[Institute for Science and Technology in Medicine, Keele University, Stoke-on-Trent, UK]<br>OC13<br>A three-dimensional bone model that incorporates mechanical loading for therapeutic testing<br>*M Vazquez, BAJ Evans, S Evans, D Riccardi, JR Ralphs, DJ Mason<br>[Arthritis Research UK Biomechanics and Bioengineering Centre, Cardiff University, Cardiff, UK;<br>Department of Child Health, Institute of Molecular & Experimental Medicine, Cardiff University, Cardiff, UK;<br>Institute of Mechanical and Manufacturing Engineering, Cardiff University, Cardiff, UK;<br>Division of Pathophysiology and Repair, Cardiff University, Cardiff, UK]<br>OC14<br>Defining critical periods and pathways in skeletal mechanosensitivity in embryonic limbs<br>*AS Pollard, IM McGonnell, C Chen, Z Cheng, C Farquharson, AA Pitsillides<br>[Comparative Biomedical Sciences, Royal Veterinary College, London, UK;<br>The Roslin Institute, R(D)SVS, The University of Edinburgh, Easter Bush, Midlothian, UK]
OC15  ATP-induced ATP release from osteoblastic cells: a mechanism to sustain and propagate purinergic signalling in bone
JP Dillon*[1], G Vindigni[1], PJ Wilson[1], LR Ranganath[1], JA Gallagher[1]
[1]Department of Musculoskeletal Biology, University of Liverpool, Liverpool, UK

10:30-11:00  Coffee
11:00-12:00  Posters – even numbers manned
12:00-13:00  Lunch
13:00-14:00  Symposium 5
Muscle, fat and bone

Generously supported by Consilient*

Chairs:
Adam Taylor (Lancaster, UK)/Kate Ward (Cambridge, UK)

IS9  Muscle, marrow fat and bone: common origins, common cytokines, common regulation
Clifford Rosen (Maine, USA)

IS10  Body fat, vitamin D and bone
Jennifer Walsh (Sheffield, UK)

14:00-15:00  Clinical Cases

Chairs:
Mark Edwards (Southampton, UK)/Roger Smith (Oxford, UK)

CC1  Hyperphosphataemic tumoral calcinosis: an unusual cause of elbow swelling
NFA Peel*[1], A Ali[2]
[1]Metabolic Bone Centre, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK;
[2]Department of Orthopaedics, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK

CC2  Congenital insensitivity to pain with massive osteophytosis and bony sclerosis; should we be concerned about nerve blocking therapies in osteoarthritis?
F Hayes*[1], N Shenker[1], G Clunie[1], G Woods[2], T Vincent[3], K Poole[1]
[1]Rheumatology Department, Addenbrooke's Hospital, Cambridge, UK; [2]Clinical Genetics Department, Addenbrooke's Hospital, Cambridge, UK

CC3  Migratory regional osteoporosis mimicking an inflammatory oligoarthritis
Al Rutherford*[1], AP Cope[1], G Hampson[1]
[1]Rheumatology Department, Guy's and St Thomas' NHS Foundation Trust, London, UK

CC4  Exome chip analysis of a Gambian family with hereditary hypophosphataemic rickets with hypercalciuria
V Braithwaite*[1], M Silver[2], A Prentice[1,3], B Hennig[2]

15:00-15:30  Coffee
15:30-16:30 Oral Communications

Chairs:
Fraser Coxon (Aberdeen, UK)/Ken Lyles (Durham, USA)

OC16 Castration stimulates proliferation of disseminated prostate cancer cells in bone: In vivo evidence supports early intervention with zoledronic acid
PD Ottewell[1], N Wang[2], J Meek[3], CA Fowles[3], PL Croucher[3], CL Eaton[2], I Holen[1]
[1]Clinical Oncology, University of Sheffield, Sheffield, UK; [2]Bone Biology, University of Sheffield, Sheffield, UK; [3]Musculoskeletal Medicine, Garvan Institute for Medical Research, Sidney, Australia

OC17 PHOSPHO1: An example of the interplay between bone mineralisation and energy metabolism
KJ Oldknow[1], NM Morton[2], MC Yadav[3], S Rajoanah[1], C Huesa[1], L Bunger[4], D Ball[5], M Ferron[6], G Karsenty[7], VE MacRae[8], JL Millan[3], C Farquharson[1]

OC18 Apolipoprotein-A1 deficiency is associated with bone loss in vivo: a new target for musculoskeletal disorders
SWZ Olechnowicz[1], S Munshaw[1], ST Lwin[1], JR Edwards[2], CM Edwards[1, 2]

OC19 Biomechanical impact of localised bone adaptation
P. Vickerton[1], J.C. Jarvis[2], J.A. Gallagher[1], R. Akhtar[3], N. Jeffery[1]
[1]Department of Musculoskeletal Biology, University of Liverpool, Liverpool, UK; [2]Research Institute for Sports and Exercise Sciences, John Moores University, Liverpool, UK; [3]Centre for Materials and Structures, School of Engineering, University of Liverpool, Liverpool, UK

OC20 Novel effects of bisphosphonates on stem cells and tissue regeneration
J Misra[1], S T. Mohanty[1], S Madan[2], J A. Fernandes[2], F H. Ehetino[1, 4], H Roehl[5], R G G Russell[1, 4], I Bellantuono[1]

OC21 Resveratrol induction of SirT1-eNOS axis promotes osteoblast activation and increased bone mass in vivo via BMP2
M Zhao[2], S-Y Ko[2], R Zhang[2], H-W Deng[2], G Gutierrez[3], S Harris[3], R Garrett[3], JR Edwards[1, 4]
Late breaking abstracts

Chairs:
Tim Arnett (London, UK)/Eugene McCloskey (Sheffield, UK)

LB1
Multiple tissue targets revealed in a transgenic mouse model for inducible and specific osteocyte ablation
A Aljazzar*, C Scudamore[2], M Boyd[1], A Boyde[3], C Farquharson[4], B Javaheri[1], M Prideaux[5], AA Pitsillides[1]

LB2
Lysyl oxidase drives osteolytic bone lesions in a breast cancer model via RANK ligand independent effects on osteoclasts: a new player in the vicious cycle?
[1]Department of Human Metabolism, University of Sheffield, Sheffield, UK; [2]Biotech Research and Innovation Centre, University of Copenhagen, Copenhagen, Denmark

LB3
Photoperiod induced changes in body weight and leptin level lead to differential bone growth in the Siberian hamster (Phodopus sungorus)
M Smith*, FJP Ebling[2], MP Grevitt[3], SI Anderson[1]
[1]School of Medicine, University of Nottingham, Nottingham, UK; [2]School of Life Sciences, University of Nottingham, Nottingham, UK; [3]Centre for Spinal Research, Queen's Medical Centre, Nottingham, UK

LB4
Endochondral ossification, mesenchymal stem cell and Wnt pathway specific loci predict differential skeletal effects in High Bone Mass
CL Gregson*, JK Kemp[2, 3], M Marshall[3], G Davey Smith[2], MA Brown[3], EL Duncan[3], JH Tobias[1]
[1]Musculoskeletal Research Unit, University of Bristol, Bristol, UK; [2]MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK; [3]Diamantina Institute, University of Queensland, Brisbane, Australia

Awards

Chairs:
Tim Arnett (London, UK)/Eugene McCloskey (Sheffield, UK)

End of meeting

*Please note: In the case of company-supported sessions, the companies concerned have had no input into the topics for discussion or the selection of speakers. The Bone Research Society is extremely grateful for their support.
Poster Presentations

P1
Trabecular orientation in the human femur and tibia and the relationship with lower limb alignment
SA Sampath[1], S Lewis[2], M Fosco[3], D Tigan[4]

P2
Abstract withdrawn

P3
Bone microarchitecture assessed by high resolution peripheral quantitative computed tomography is associated with fracture status in older men and women.
MH Edwards*[1,2], KA Ward[3], C Parsons[1], J Thompson[2], EM Dennison[1,3], C Cooper[1,4]

P4
Retinoic Acid Receptor (RAR) agonists inhibit and RAR antagonists potentiate osteoblastic differentiation of mesenchymal progenitor cells
A.C. Green*[1,2], E.K. Baker[1,2], R.A.S Chandraratna[3], L.E. Purton[1,3]
[1]Stem Cell Regulation Unit, St Vincent's Institute, Melbourne, Australia; [2]Department of Medicine, The University of Melbourne, Melbourne, Australia; [3]Io Therapeutics, Inc., Santa Ana, California, U.S.A.

P5
Loading intensity of physical activity is related to muscle strength and bone mineral density in middle-aged women
J Chahal[1], R Lee[1], J Luo*[1]
[1]Department of Life Sciences, University of Roehampton, London, UK

P6
Abstract withdrawn

P7
Abstract withdrawn

P8
High bone mass is associated with radiographic knee osteoarthritis through both BMI-dependent and independent pathways
SA Hardecastle*[1,2], P Dieppe[1,3], CL Gregson[1], NK Arden[4,5], TD Spector[6], DJ Hart[6], MH Edwards[7,8], E. Dennison[9], C Cooper[4,5,7], A Sayers[1], M Williams[8], G Davey Smith[2], JH Tobias[4]
P9
The influence of dairy consumption, physical activity and sedentary behaviour on bone mass in Flemish children
I Sioen[1], N Michels[1], C Polfliet[1], S De Smet[1], S D’Haese[1], I Roggen[1], S De Henauw[1]

P10
Vitamin D is low in obesity, and this is due to greater volume of distribution.
JS Walsh*[1], AL Evans[1], S Bowler[1], KE Naylor[1], F Gossiel[1], R Jacques[1], J Schoenmakers[1], KS Jones[1], R Eastell[1]
[1]Academic Unit of Bone Metabolism, University of Sheffield and Sheffield Teaching Hospitals, Sheffield, UK; [2]School of Health and Related Research, University of Sheffield, Sheffield, UK; [3]MRC Human Nutrition Research Unit, Cambridge, UK

P11
The effect of bisphosphonate treatment on sclerostin levels in postmenopausal osteoporosis: the TRIO Study
F Gossiel*[1], KE Naylor[1], EV McCloskey[1], N Peel[1], JS Walsh[1], MA Paggioli[1], R Eastell[1]
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The effect of bisphosphonate treatment on osteoclast precursor cells in postmenopausal women with osteoporosis: the TRIO Study
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KE Naylor[1], MA Paggioli[1], F Gossiel[1], EV McCloskey[1], NFA Peel[1], JS Walsh[1], R Eastell[1]
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E Dall’Ara,[1, D Barber,[3, M Vicenzi,[1,2
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SR Crawford[1,2], A Burden[1], JM Yates[3], P Zioupos[3], K Winwood[1]
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DZ Morgado Ramírez[1], S Struij[1], RYW Lee*[1]
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R Gao*[1], M Streel[1], DS Musson[1], KE Callon[1], DM Tuarri[1], B Coleman[2], J Cornish[1]
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L Yang*[1,2], N Parimi[3], ES Orwell[4], D Black[3], JT Schousboe[5], R Eastell[1,2]
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DS Musson*[1], M Watson[1], JM Lin[1], A Chhana[1], YE Park[1], KE Callon[1], D Naot[1], J Cornish[1]
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MP Whyte[1], N Bishop[2,3], JH Simmons[4], R Lutz[5], M Vallée[6], A Melian[7], T Oдри[6]
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R Doherty[1], N Gheryani[2], A Gartland[1], G Miller[1]
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A Riddell\textsuperscript{a}[1], A Prentice\textsuperscript{a}[1], K Ward\textsuperscript{a}[1]
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A Karunaratne\textsuperscript{a}[1], S D Masouros\textsuperscript{a}[1], A M J Bull\textsuperscript{a}[1]
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AM Taylor\textsuperscript{a}[1], JB Mistry\textsuperscript{a}[1], M Bukhari\textsuperscript{b}[2]
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KM Shah\textsuperscript{a}[1], JM Wilkinson\textsuperscript{a}[1], A Gartland\textsuperscript{a}[1]
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N Scully*[^1,2], L Bonewald[^3], S Evans[^2,4], D Mason[^2,3], B Evans[^1,2]
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PL Salmon*[^1]
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PL Salmon*[^1], X Liu[^1]
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A Douglas*[^1], H Witwicka[^2], H Jia[^2], K Yang[^2], D Miranda de Stegmann[^1], MH Helfrich[^1], PR Odgren[^2], FP Coxon[^1]
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M A Adams[^1], J Dally[^1], I Wilson[^1], C Elford[^1], M E M Jenney[^2], J W Gregory[^1], B A J Evans*[^1]
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Y Zhou[1], P Miri[1], L Wang[1], XL Lu[1]
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A Foster[1], A Jassim[2], D Abraham[2], G Stenbeck[3]
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Genetic variations as determinants of osteoporosis in an Iranian cohort. SA Dastgheib[1], A Gartland[2], MB Tabe[3], MD Tear[4]
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The value of skeletal remains for understanding enthesis. C Y Henderson[1]
[1] CIAS - Research Centre for Anthropology and Health, University of Coimbra, Coimbra, Portugal
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Alendronate and zoledronic acid inhibit osteoclastogenesis by different mechanisms in mouse marrow cell cultures
V Bradaschia-Correa*[1], GC Ribeiro-dos-Santos*[1], P Rezende-Teixeira*[2], GM Machado-Santelli*[2], VE Arana-Chavez*[1]
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S K V Pydah*[1], N Ahmed*[2], M Webb*[3], M Nixon*[3]
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Osteolytica™, an image analysis software package, that substantially improves the accuracy of cancer-induced osteolytic lesion measurements compared to other currently available methods
H Evans*[1], T Karmakharn*[2], P Richmond*[2], M Lawson*[1], A Chantry*[1]
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Game Technology Against Cancer (GTAC) ft Osteolyticlon™
C Limb*[1], M Futzer*[1], A Pambuccian*[1], A Chantry*[1]
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