P001 Optimising the investigation and management of vitamin D deficiency at North Bristol NHS Trust
James Kennedy¹, Andrea Joughin¹, Rosie Marchant², Karen Harding², ¹Gloucestershire Hospitals NHS Trust, Gloucestershire, UK, ²North Bristol NHS Trust, Bristol, UK

P002 Predicting acute post-operative outcomes following hip fractures
Eilis Fitzgerald¹, Jude Ryan², Dermot O Farrell², ¹GEMS, University of Limerick, Limerick, Ireland, ²University Hospitals Limerick, Limerick, Ireland

P003 Abstract withdrawn

P004 Abstract withdrawn

P005 Generation of conditional knock out mouse for Alkaptonuria
Ke Liu¹, Antonius Plagge¹, Ranganath Lakshminarayan¹, James Gallagher¹, George Bou-Gharios¹, ¹University of Liverpool, Liverpool, UK

P006 Aggrecan gene expression in chondrocytes is controlled by multiple regulatory elements
Ian M Li¹, Ke Liu¹, Alice Neal², Peter D Clegg¹, Sarah De Val², George Bou-Gharios³, ¹University of Liverpool, Liverpool, UK, ²University of Oxford, Oxford, UK

P007 Reduction of frontal plane knee moment caused by lateral trunk lean depends on step width
Jennifer Anderson¹², Stephanie King³, Andrzej Przybyla⁴, Lakshminarayan Ranganath⁵, Gabor Barton⁶, ¹University of Salford, Salford, UK, ²Toffeln, Bristol, UK, ³University of Hull, Hull, UK, ⁴Liverpool John Moores University, Liverpool, UK, ⁵National Alkaptonuria Centre, Liverpool, UK

P008 Is a lack of structural integration at the intervertebral disc-vertebra interface a factor in human lumbar spine degeneration?
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P009 Abstract withdrawn

P010 Small organic molecules in octacalcium phosphate
Yang Li¹, David Reid¹, Rui Li¹, Christian Bonhomme², Danielle Laurencin³, Karin Muller¹, Melinda Duer¹, ¹University of Cambridge, Cambridge, UK, ²UPMC, Paris, France, ³CNRS Montpellier, Montpellier, France

P011 Location, Location, Location: conserved differences in regional canine osteoblast behaviour
Ines Pedro Perpetuo¹, Kevin Parsons², Mittal Shah¹, Isabel Orriss¹, Michael Doube¹, Andrew Pitsillides¹, Richard Meeson³, ¹Comparative Biomedical Sciences, Royal Veterinary College, London, UK, ²Langford Veterinary Services, Bristol, UK, ³Queen Mother Hospital for Animals, Royal Veterinary College, London, UK

P012 Primary osteoblast culture from Canis lupus familiaris (domestic dog)
Ines Pedro Perpétuo¹, Richard Meeson², Andrew Pitsillides¹, Michael Doube¹, Isabel Orriss¹, ¹Comparative Biomedical Sciences, Royal Veterinary College, London, UK, ²Queen Mother Hospital for Animals, London, UK

P013 Primary osteoblast culture from Vulpes vulpes (red fox)
Ines Pedro Perpétuo¹, Alessandro Felder¹, Andrew Pitsillides¹, Michael Doube¹, Isabel Orriss¹, ¹Comparative Biomedical Sciences, Royal Veterinary College, London, UK

P014 Abstract withdrawn

P015 Micromechanical properties of articular cartilage and subchondral bone of the human

P016 Micromechanical properties of articular cartilage and subchondral bone of the human
knee joint
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P016 FGF-2 promotes osteocyte differentiation through increased E11 expression in vitro
Ekele Ikpegbu1, Dylan Clements1, Lena Basta1, David Buttle2, Andrew Pitsillides3, Katherine Staines1, Colin Farquhason1, Roslin Institute and R(D)VS, The University of Edinburgh, Edinburgh, UK, 2Department of Infection and Immunity, The University of Sheffield, Sheffield, UK, 3Comparative Biomedical Sciences, Royal Veterinary College, London, UK

P017 The response of fibroblast growth factor-23 (FGF-23) to teriparatide in postmenopausal osteoporosis.
Fatma Gossiel1, Eugene McCloskey1, Kim Naylor1, Jennifer Walsh1, Nicola Peel1, Richard Eastell1, University of Sheffield, Sheffield, UK

P018 Musculoskeletal and performance characteristics of exceptionally active older people: comparison between life-long runners, those taking up competitive running at a later age and a recreationally active control group.
Jessica Coulson1, Mathew Piascecki1, Alex Ireland1, Kevin Deere2, Kimberley Hannam2, Jon Tobias3, Jamie McPhee1, Manchester Metropolitan University, Manchester, UK, 2University of Bristol, Musculoskeletal Research Unit, Bristol, UK

P019 Knees and Teeth Syndrome (KaTS) in cats - patella fractures in felines with persistent deciduous teeth
Sorrel Langley-Hobbs1, University of Bristol, Bristol, UK

P020 Weight is associated with hip shapes known to predispose to osteoarthritis: a cross-sectional study in peri-menopausal women
Benjamin Faber1, Denis Baird1, Jenny Gregory2, Rebecca Barr2, Richard Aspden2, Debbie Lawlor1, Celia Gregson1, Jonathan Tobias1, University of Bristol, Bristol, UK, 2University of Aberdeen, Aberdeen, UK

P021 Abstract withdrawn

P022 Development of assays to assess the clinical utility of tenascin-C
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P023 Inhibition of CTX-II release by cathepsin K inhibition in vivo but not in vitro suggests that anti-resorptive therapy protects cartilage.
Erik Lindstrom1, Urszula Grabowska3, Nick Athanasou2, Karen Fuller1, Tim Chambers1, St George's, University of London, London, UK, 2Botnar Research Centre, Oxford, UK, 3Medivir AB, Stockholm, Sweden

P024 What is in the Osteoarthritic bone marrow lesion?
Nidhi Sofa1, Maureen Arora2, Alan Boyd2, St George's, University of London, London, UK, 2Dental Physical Sciences, Queen Mary University of London, London, UK

P025 The Rare and Undiagnosed Diseases Study (RUDY) Platform – a novel approach to patient-driven research in rare musculoskeletal diseases.
Lydia Forestier-Zhang1, Laura Watts1, Alison Turner1, Cristina Ponte1, Harriet Teare2, David Gray1, Nathanael Gray1, Rory Popert1, Joanna Hogg1, Joseph Barrett1, Raashid Luqmani1, Paul Wordsworth1, Jane Kays2, M Kassim Javaid3, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Oxford, UK, 2Centre for Health, Law and Emerging Technologies, University of Oxford, Oxford, UK

P026 Differences in bone density and geometry in adolescent male athletes engaged in UK popular sports: The PRO-BONE study.
Dimitris Vlachopoulos1, Alan R. Barker1, Craig A. Williams1, Sigurbjörn A., Arngrímsson3, Karen M. Knapp1, Brad S. Metcalf1, Ioannis G. Fatouros4, Luis A. Moreno5, Luis Gracia-
P027 Effect of denosumab treatment in osteoporosis patients who had long term bisphosphonate therapy
S Nikolova, F Hannan, A Daroszewska, V Mishra, ROYAL LIVERPOOL AND BROADGREEN UNIVERSITY HOSPITAL NHS TRUST, LIVERPOOL, UK

P028 Effectiveness of measuring bone alkaline phosphatase in monitoring patients with chronic kidney disease with bone mineral disorders
A TRIDIMAS, S NIKOLOVA, V MISHRA, ROYAL LIVERPOOL AND BROADGREEN UNIVERSITY HOSPITAL NHS TRUST, LIVERPOOL, UK

P029 An evaluation of pre and post-operative biochemical and haematological changes in patients with hip fracture
Emma Tenison, Celia Gregson, Royal United Hospital NHS Foundation Trust, Bath, UK, Musculoskeletal Research Unit, University of Bristol, Bristol, UK

P030 Icaritin anabolic function on human osteoblast via up-regulation of CXCR4.
Ryan Lim, Lei Li, Jun Li, Nicholas Chew, Eu-Leong Yong, National University of Singapore, Singapore, Singapore, National University Hospital, Singapore, Singapore

P031 Effects of sexual hormone deficiency and reposition associated to malnourishment (Cafeteria diet or protein restriction) on bone metabolism in adult female Wistar rats
Victoria Padula de Quadros, Maria Cristina Cintra Gomes-Marcondes, University of Campinas, Campinas, São Paulo, Brazil

P032 Laser Microtomy for regular Histology and advanced Histochemistry in Bone Research
Heiko Richter, Anja Osterberg, Brigitte Müller-Hilke, Fabian Will, Birgitta Stolze, 1 LLS ROWIAK LaserLabSolutions GmbH, Garbsener Landstr. 10, 30419 Hannover, Germany, Institute of Immunology, Schillingallee 70, 18055, Germany

P033 Impact of fracture risk assessment tools on proportions of women without prior fracture identified as at risk and treated - lessons from the SIGN guidance
Eugene McCloskey, Nicholas Harvey, Helena Johansson, Juliet Compston, John Kanis, MRC-Arthritis UK Centre for Integrated research into Musculoskeletal Ageing (CIMA), Department of Human Metabolism, University of Sheffield, Sheffield, UK, Mellanby Centre for Bone Research, Department of Oncology and Metabolism, University of Sheffield, Sheffield, UK

P034 The effects of parathyroid hormone peptides on the peripheral skeleton of postmenopausal women: A systematic review
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P035 The adiponectin receptor agonist AdipoRon, activates osteoblast differentiation markers and promotes autophagy in vitro

P036 Ex vivo model of human cancer-bone microenvironment

P037 Predicting hip fracture risk from sideways falls using computer modelling techniques
David Collins, Richard Eastell, Lang Yang, Karl Bates, Robin Crompton, University of Liverpool, Liverpool, UK, University of Sheffield, Sheffield, UK
P038 Abstract withdrawn

P039 Relating Biological signals to Biomolecules in High Tibial Osteotomy
DEBORAH MASON1, GEMMA WHATLING1, CHRISTOPHER WILSON3, CLEO BONNET1, CAROLE ELFORD2, KAREN BRACKSPERE1, PAUL BIGGS1, CATHY HOLT1, 1CARDIFF UNIVERSITY, CARDIFF, UK, 2University of Wales Hospital Llandough, CARDIFF, UK

P040 Clinically available scanning techniques are a potential detection tool for high density mineralised protrusions (HDMP) in human knees joints
Neil Thomas1, Nathan Jeffery1, Briony Dillon1, Valerie Adams1, Lakshminarayan Ranganath1, Rob van 't Hof1, Alan Boyde2, James Gallagher1, 1University of Liverpool, Liverpool, UK, 2Queen Mary, University of London, London, UK

P041 Pitfalls in assessments and management of osteoporosis in a secondary care centre
Brijesh Ayyaswamy1, Anoop Anand3, Seema Kalra1, Pual Dunckow1, 1Blackpool Victoria hospital, Blackpool, UK

P042 Investigating phosphatidylinerine metabolism in Lenz-Majewski syndrome
Charalambos Demetriou1, Emma Peskett1, Alexander Kapustin2, Dagan Jenkins1, Frédéric M Vaz2, Osamu Kuge1, Peter Clayton1, Kevin Mills1, Angela Barnicoat2, Maria Bitner-Glindzicz4,5, Duangrurdee Wattanarisirichaigoon4, Krystyna Chrzanowska1, Martina Simandlová4, Lionel Maldergem3, Professor Catherine Shanahan2, Sérgio B Sousa1, Gudrun E Moore1, Philip Stanier1, 1Genetics and Genomic Medicine, UCL Institute of Child Health, London, UK, 2Cardiovascular Division, James Black Centre, King’s College London, London, UK, 3Laboratory of Genetic Metabolic Disorders, Academic Medical Center, Amsterdam, The Netherlands, 4Department of Chemistry, Faculty of Sciences, Kyushu University, Fukuoka, Japan, 5Clinical Genetics Department, Great Ormond Street Hospital, London, UK, 6Department of Pediatrics, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand, 7Department of Medical Genetics, Children’s Memorial Health Institute, Warsaw, Poland, 8Department of Biology and Medical Genetics, University Hospital Motol and Second Faculty of Medicine, Prague, Czech Republic, 9Centre de Génétique Humaine, Université de Franche-Comté, Besançon, France, 10Servicio de Genética Médica, Hospital Pediátrico de Coimbra, Coimbra, Portugal

P043 Increases in proximal femur bone strength estimated using finite element models from computed tomography scans following brief, high impact exercise in older men
Daniel Blackwell1,2, Lang Yang2, Katherine Brooke-Wavell1, Muhammad Qasim2, Sarah Allison1,3, Winston Rennie1, Greg Summers2, Richard Eastell2, 1Loughborough University, Loughborough, UK, 2Sheffield University, Sheffield, UK, 3University of Surrey, Surrey, UK, 4University Hospitals Leicester, Leicester, UK, 5Derby Teaching Hospitals, Derby, UK

P044 Abstract withdrawn

P045 Ubiquitin-protein ligase UBR5 suppresses heterotopic tendon/ligament ossification
David Mellis1, Natalie Dora1, Elaine Kinsella1, Pavel Sharma1, Malgorzata Kubiak1, Antonia Sophocleous1, Stuart Ralston1, Donald Saltre1, Robert Hill1, Mark Ditzel1, 1University of Edinburgh, MRC IGMM, Edinburgh, UK, 2MRC Human Genetics Unit, Edinburgh, UK

P046 Involvement of the PKR Signalling Pathway in the Development of Post-traumatic Osteoarthritis in the Mouse
Sophie Gilbert1, Emma Blain1, Cleo Bonnet1, Victor Duance1, Deborah Mason1, 1Cardiff University, Cardiff, UK

P047 Free vitamin D concentrations reflect racial and geographic differences in total 25OHD
Carrie M. Nielson1,2, Kerry S. Jones1, Rene F. Chun1,3, Jon Jacobs2, Yin Wang2,6, Martin Hewison1,6, John Adams1, Christine M. Swanson1, Christine G. Lee1, Dirk Vanderschueren2,3,11, Steven Pauwels12,13, Ann Prentice1,3,14, Richard D. Smith2, Tujin Shi2,9, Yuqian Gao2, Joseph M. Zmuda7, Jodi Lapidus2, Jane A. Cauley3,9, Roger Bouillon1,15, Inez Schoenmakers1, Eric S. Orwoll1,3, 1Bone & Mineral Unit, Oregon Health & Science University, 2Bone Health Branch, National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD, USA, 3Bone Research Group, University of Washington, Seattle, WA, USA, 4Department of Clinical Pharmacy, School of Pharmacy and Pharmaceutical Sciences, The University of Nottingham, UK, 5Department of Clinical Nutrition, School of Life and Environmental Sciences, The University of Nottingham, UK, 6Clinical Endocrinology and Diabetes Division, University of Sheffield, Sheffield, UK, 7Department of Medicine, University of Pittsburgh, Pittsburgh, PA, USA, 8Bone Disease Laboratory, The Robert Wood Johnson Medical School, New Brunswick, NJ, USA, 9Bone & Mineral Research Group, University of Sydney, Sydney, Australia, 10Division of Orthopaedics, Oregon Health & Science University, Portland, OR, USA, 11Department of Preventive Medicine, University of Liege, Liege, Belgium, 12Department of Biochemistry, Pharmaceutical Institute, Ghent University, Ghent, Belgium, 13Department of Neurobiology and Anatomy, University of Nantes, Nantes, France, 14Department of Public Health, School of Medicine, University of Connecticut, Farmington, CT, USA, 15Bone Research Unit, University of Leuven, Leuven, Belgium, 16Department of Medicine, St. Vincent's University Hospital, Dublin 2, Ireland
P048 A study of the role of ghrelin and ionic mechanisms in adipogenic differentiation of bone
Marine Bastien, James Downing, Andrew Evans, Neil Henney, Liverpool John Moores University, Liverpool, UK

P049 Abstract withdrawn

P050 Identification and characterisation of extracellular vesicles and uptake events in resorbing osteoclasts using TEM tomography
David Sünderhauf, Emma McDermott, Debbie Wilkinson, Kevin Mackenzie, Miep Helfrich, University of Aberdeen, Aberdeen, UK

P051 Circulating microRNA in metabolic bone diseases-Osteoporosis
Abdullah Mandourah, Rob Van’t Hof, Roger Barraclough, Lakshminarayan Ranganath, Dong Barraclough, Department of Musculoskeletal Biology, Institute of Ageing and Chronic Disease, University of Liverpool, Daulby Street, Liverpool, UK, Institute of Integrative Biology, University of Liverpool, Crown Street, Liverpool, UK, Royal Liverpool Hospital, Prescot Street, Liverpool, UK, The Ministry of Defense Armed Forces Medical Services, Taif, Saudi Arabia

P052 Hormone and Hormone Responsive Stress-Related Molecules Involved In Osteoporosis in Post-Menopausal Women
Ayed Dera, Roger Barraclough, Ranganath Lakshminarayan, Dong Barraclough, Department of Musculoskeletal Biology II (Medicine), institute of Aging and Chronic Diseases, UCD Building, University of Liverpool, Daulby Street, Liverpool, UK, King Khalid University, Abha, UK, Institutes of Integrative Biology, University of Liverpool, Crown Street, University of, Liverpool, UK, Department of Clinical Biochemistry and Metabolic Medicine, Royal Liverpool University Hospital, Prescot street, Liverpool, UK

P053 Delivery of pro-angiogenic and osteogenic genes to human skeletal and endothelial populations to augment bone repair
RMH Rumney, S Lanham, L Thiagarajan, J Dixon, KM Shakesheff, ROC Oreffo, University of Southampton, Southampton, UK, University of Nottingham, Nottingham, UK

P054 Spinal osteoarthropathy in alkaptonuria patients monitored by 18F-NaF PET/CT
Leah Taylor, Mark Baker, Sobhan Vinjamuri, Lakshminarayan Ranganath, Nathan Jeffery, James Gallagher, University of Liverpool, Liverpool, UK, Royal Liverpool University Hospital, Liverpool, UK

P055 The relationship between the Fine Structure Analysis magnetic resonance imaging (MRI) technique and trabecular number (Tb.N) measured by micro computed tomography (microCT) in cadaveric vertebrae
Kirk McGilvray, Samantha Telfer, James Rafferty, Amanda Cox, Lance Farr, Mario Mendoza, Snehal Shetye, Christian Puttlitz, Orthopaedic Bioengineering Research Laboratory, Departments of Mechanical Engineering and School of Biomedical Engineering, Colorado State University, Fort Collins, Colorado, USA, Acuitas Medical Ltd, Swansea, Wales, UK, UCSB Brain Imaging Center, Department of Psychological & Brain Sciences, University of California Santa Barbara, Santa Barbara, California, USA

P056 Differences in spine shape in adults entering old age: relationship with sex, body size
and BMD
Anastasia Pavlova, Stella Muthuri, Fiona Saunders, Judith Adams, Diana Kuh, Richard Aspden, Rebecca Barr, Jennifer Gregory, School of Medicine, Medical Sciences & Nutrition, University of Aberdeen, Aberdeen, UK, MRC Unit for Lifelong Health and Ageing, University College London, London, UK, Central Manchester University Hospitals NHS Foundation Trust, Manchester, UK

P057 Novel Silane Surface Modification Increases Expression of Osteocyte Markers in Primary Human Osteoblast-Like Cells under Standard Culture Conditions
Sandra Fawcett, Judith Curran, Nicholas Rhodes, Lakshminarayanan Ranganath, Jane Dillon, Peter Wilson, James Gallagher, John Hunt, University of Liverpool, Liverpool, UK

P058 Investigation into the biomechanical properties of cancellous bone preserved using Thiel's fixation method
Claire M. Tierney, Nathan Jeffery, Human Anatomy Resource Centre, University of Liverpool, Liverpool, UK

P059 Old bones, new structures - detection of adipocyte templated excrescences in aged human bone
Adam Taylor, Chris Platt, Peter Wilson, Lakshminarayanan Ranganath, Jim Gallagher, Alan Boyd, Lancaster Medical School, Lancaster University, Lancaster, UK, Bone and Joint Research Group Musculoskeletal Biology, University of Liverpool, Liverpool, UK, DPS, Queen Mary, University of London, London, UK

P060 Analysis of osteocyte density in mice using μCT
Rob van t Hof, Alex Morgan, Haziq Mokhtar, Anna Daroszewska, University of Liverpool, Liverpool, UK

P061 An audit of the recognition and management of low alkaline phosphatase levels in children
Alexander Moylan, MZ Mughal, Benjamin Jacobs, Royal National Orthopaedic Hospital, London, UK, Central Manchester NHS Foundation Trust, Manchester, UK

P062 Fibula adaptation to regular exercise indicates new mechanoadaptive behaviours of bone
Gustavo Cointry, Laura Nocciolino, Alex Ireland, José Ferre, Jörn Rittweger, Ricardo Capozza, National University of Rosario, Rosario, Argentina, Manchester Metropolitan University, Manchester, UK, German Aerospace, Cologne, Germany

P063 MicroRNA miR-1231 inhibits expression of sclerostin in TE85 and SaoS-2
Mohd Azuraidi Osman, Kasia Goljanek-Whysall, Peter J Wilson, James A Gallagher, Nick P Rhodes, Institute of Ageing and Chronic Disease, Liverpool, UK, Faculty of Biotechnology and Biomolecular Sciences, UPM Serdang, Malaysia

P064 An anatomical investigation of a cadaver displaying characteristics of both enchondromas and osteochondromas
Rebecca Chilvers, Nathan Jeffery, Jim Gallagher, Alistair Bond, University of Liverpool, Liverpool, UK

P065 BL-1249 is a K+ channel opener and inhibits induction of the intermediate early gene c-fos in the SaOS-2 osteosarcoma-derived cell line
Alistair Bond, Anne Gallagher, Jane Dillon, Tomoko Kamishima, Jim Gallagher, John Quayle, University of Liverpool, Liverpool, UK

P066 Early Detection of Osteogenic Changes in Normal Human Osteoblasts by Raman Spectroscopy
Stephanie Marfy-Smith, Roger Emery, Andrew Pitsilledes, Sumeet Mahajan, Claire E. Clarkin, Centre for Biological Sciences, University of Southampton, SO17 1BJ, Southampton, UK, Institute for Life Sciences and Department of Chemistry, University of Southampton, SO17 1BJ, Southampton, UK, Department of Surgery and Cancer, Faculty of Medicine, Imperial College, SW7 1AZ, London, UK, Department of Comparative Biomedical
Identification of regional diversity in blood vessel structures within murine cortical bone
Juan Nunez1, Philipp Thurner2, Philipp Schneider1, Claire Clarkin1, 1University of Southampton, Southampton, UK, 2Vienna University of Technology, Vienna, Austria

Bone loading by programmed muscle activity in the rat
Jonathan Jarvis1, Paula Vickerton3, James Gallagher6, Riaz Akhtar2, Hazel Sutherland1,2, Nathan Jeffery2, Martin Schmoll4, Manfred Bijak5, Hermann Lammueller4, 1Liverpool John Moores University, Liverpool, Merseyside, UK, 2The University of Liverpool, Liverpool, Merseyside, UK, 3Keele University, Keele, UK, 4The Medical University of Vienna, Vienna, Austria

Developing a more representative model of physiological and pathophysiological osteochondral cyclic loading
Nidal Khatib1, Deborah Mason1, Andrew Metcalfe2, Emma Blaine1, Cathy Holt1, 1Cardiff University, Cardiff, Glamorgan, UK, 2Warwick University, Warwick, UK

Tissue distribution of mRNA expression of enzymes involved in the tyrosine metabolic pathway in Hgd−/−mice with the osteoarthropathy of alkaptonuria.
P Wilson1, L Ghezzi2, J Dillon1, A Santucci2, L Ranganath3, J Gallagher1, 1University of Liverpool, Liverpool, Merseyside, UK, 2Università degli Studi di Siena, Siena, Italy, 3Royal Liverpool University Hospital, Liverpool, Merseyside, UK

A Metabolomics approach to changes associated with loss of cartilage in Alkaptonuria and Osteoarthritis: A Preliminary Study.
Gordon Ross1, Anna Milan2,3, Andrew Hughes2,3, Andrew Davison2,3, Sarah Curtis3, Brendan Norman3, Norman Roberts3, Hazel Sutherland4, Jonathan Jarvis1, James Gallagher3, Lakshminarayan Ranganath2,3, 1Agilent Technologies UK Ltd., Manchester, UK, 2Royal Liverpool University Hospital, Liverpool Clinical Laboratories, Liverpool, UK, 3University of Liverpool, Liverpool, UK, 4University of Liverpool, Liverpool, Merseyside, UK

The effect of continuous and intermittent exercise on bone mineral density in postmenopausal women: a six-month randomised control trial
Gallin Montgomery1, Grant Abt1, Catherine Dobson1, Tina Smith5, Michael Fagan1, Mo Aye3, 1University of Hull, Hull, UK, 2University of Wolverhampton, Wolverhampton, UK, 3Hull and East Yorkshire Hospitals NHS Trust, Hull, UK

Autosomal Dominant High Bone Mass Syndrome presenting before skeletal maturity
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Up the creek: truthful imaging in spinal osteoporosis?
Alan Boyd1, 1QMUL, London, UK

Are the cracks starting to appear in bisphosphonate treatment for osteoporosis?
Andi Jin1, Justin Cobb3, Ulrich Hansen1, Rajarshi Bhattacharya1, Richard Abel6, 1Imperial College, London, UK

P2X7 Receptor status alters the osteoblast response to clinically relevant concentrations of metal ions following metal-on-metal hip replacement
Fay Ismail1, Karan Shah1, Mark Wilkinson1, Alison Gartland1, 1The Mellanby Centre for Bone Research, The University of Sheffield, Sheffield, UK

P2X7RA or P2X7RB expression confers a growth advantage to Te85 osteosarcoma cells in vitro.
Luke Tattersall1, Karan Shah1, Fay Ismail1, Michelle Lawson1, Alison Gartland1, 1The
**P079** Collagen becomes ordered prior to mineral deposition
Jemma G. Kerns¹,², Kevin Buckley⁴,³, John Churchwell², Anthony W. Parker³, Pavel Matousek⁵, Allen E. Goodship⁶, ¹Lancaster University, Lancaster, UK, ²University College London, London, UK, ³Central Laser Facility, Research Complex at Harwell, STFC Rutherford Appleton Laboratory, Oxford, UK, ⁴NUI Galway, Galway, Ireland

**P080** Osteoclast Function is Modulated by Circulating Metal Ions from Patients Following Hip Resurfacing.
KM Shah¹, PN Sudsok¹, D Morrell¹, JM Wilkinson¹, A Gartland¹, ¹Department of Oncology and Metabolism, The Mellanby Centre for Bone Research, The University of Sheffield, Sheffield, UK

**P081** Is earlier walking onset associated with greater hip bone strength in older men and women?
Alex Ireland¹, Stella Muthuri², Judith Adams³,⁴, Diana Kuh³, Rachel Cooper², ¹Manchester Metropolitan University, Manchester, UK, ²MRC Unit for Lifelong Health and Ageing at UCL, London, UK, ³Central Manchester University Hospitals NHS Foundation Trust, Manchester, UK, ⁴University of Manchester, Manchester, UK

**P082** The emerging role of P2X7 receptor in mediating subchondral bone changes during mechanically induced osteoarthritis.
Magdalena Adamczyk¹,², Daniel Aeschlimann¹, Bronwen Evans³, Alison Gartland², ¹Matrix Biology and Tissue Repair Research Unit, School of Dentistry, Arthritis Research UK Biomechanics and Bioengineering Centre, College of Biomedical and Life Sciences, Cardiff University, Cardiff, UK, ²The Mellanby Centre For Bone Research, Academic Unit of Bone Biology, Department of Oncology and Metabolism, The University of Sheffield, Sheffield, UK, ³Division of Cancer and Genetics, School of Medicine, Arthritis Research UK Biomechanics and Bioengineering Centre, College of Biomedical and Life Sciences, Cardiff University, Cardiff, UK

**P083** Syndecan-3 is important for maintaining bone mass
Francesca de Sousa Brito¹, Addolorata Pisconti¹, Rob van ‘t Hof¹, Anna Daroszewska¹, ¹University of Liverpool, Liverpool, UK

**P084** Microstructural analysis of disuse-related osteoporosis in an animal model of spinal cord injury
J.A. Williams¹, J.F.C. Windmill², J.S. Riddell³, K.E. Tanner⁴, S. Coupaud¹, ¹Department of Biomedical Engineering, University of Strathclyde, Glasgow, UK, ²Department of Electronic and Electrical Engineering, University of Strathclyde, Glasgow, UK, ³Institute of Neuroscience and Psychology, College of Medical, Veterinary and Life Sciences, University of Glasgow, Glasgow, UK, ⁴Biomedical Engineering Division, University of Glasgow, Glasgow, UK

**P085** The Fibrodysplasia Ossificans Progressiva (FOP) Connection Registry: patient reports of new bone growth
Neal Mantick⁵, Betsy Bogard¹, ¹The International FOP Association, Casselberry, FL, USA

**P086** Time trends in fracture incidence in the United Kingdom between 1990 and 2012: a CPRD Study
Robert van der Velde¹,²,³, Caroline Wyers¹,², Elizabeth Curtis³, Piet Geusens⁴,⁵, Joop van den Bergh¹,², Frank de Vries⁶, Cyrus Cooper⁷, Tjeerd van Staa⁸, Nicholas Harvey³,⁸, ¹Department of Internal Medicine, VieCuri Medical Centre, Venlo, The Netherlands, ²Department of Internal Medicine, NUTRIM School for Nutrition, Toxicology and Metabolism, Maastricht University Medical Centre, Maastricht, The Netherlands, ³MRC Lifecourse Epidemiology Unit, Southampton General Hospital, University of Southampton, Southampton, UK, ⁴Department of Internal Medicine, Subdivision Rheumatology, CAPHRI, Maastricht University Medical Centre (MUMC), Maastricht, The Netherlands, ⁵Biomedical Research Centre, Hasselt University, Agoralaan, Diepenbeek, The Netherlands, ⁶Department of Clinical Pharmacology and Toxicology, University Medical Centre, Maastricht, The Netherlands, ⁷Department of Musculoskeletal Biomedical Research Unit, Institute of Musculoskeletal Sciences, University of Oxford, Oxford,