SPEAKER PROFILES

Judith Bubbear

London, UK

Dr Bubbear is a Consultant Rheumatologist with a special interest in Metabolic Bone Disease. She was a Consultant at Barts Health for 7 years from 2010 and was appointed as a Consultant in Metabolic Bone Disease at the Royal National Orthopaedic Hospital in 2017. She runs clinics for patients with Osteoporosis and Metabolic Bone Diseases at RNOH. The metabolic diseases she has an interest in include CRMO/SAPHO, Fibrous dysplasia, Fibrodysplasia Ossificans Progressiva, Hypophosphatasia, Osteogenesis Imperfecta, Paget's disease, Vitamin D deficiency and X-linked hypophosphataemic rickets.

Roland Chapurlat

Lyon, France

Dr Roland Chapurlat has been a Professor of Rheumatology at the University Claude Bernard-Lyon 1 since 2005. He is the Chief of the Division of Rheumatology and Bone Diseases at Edouard Herriot Hospital in Lyon France and the Director of the INSERM UMR 1033 research unit, dedicated to musculskeletal diseases, along with a reference centre for rare bone diseases in Lyon, France.

His main research interests are osteoporosis, osteoarthritis and rare bone diseases such as fibrous dysplasia of bone and osteogenesis imperfecta. He has published more than 350 articles in peer-reviewed journals.

Rachel Cooper

Manchester, UK

Rachel Cooper is Professor of Musculoskeletal Epidemiology at Manchester Metropolitan University and Professor of Translational Epidemiology at Newcastle University. Rachel applies her expertise in life course epidemiology to the study of healthy ageing, with a focus on physical capability, musculoskeletal health and multiple long-term conditions. The ultimate goals of her research are to improve people's chances of remaining active and independent in later life and to reduce lifetime inequalities in these chances.

Timothy Cootes

Manchester, UK

After completing a degree in Maths and Physics at Exeter University, and a PhD in Civil Engineering (studying a storm sewer overflow) at Sheffield City Polytechnic, I joined the University of Manchester in 1991. I began as an RA, working with Prof Chris Taylor on modelling industrial components.

I was awarded an SERC Postgraduate fellowship in 1993, and an EPSRC Advanced Fellowship in 1995. I became a Lecturer in ISBE in June 2001, and was promoted to Senior Lecturer in October 2002. I became a Reader in Computer Vision in August 2005, and was appointed as a Professorial Research Fellow in August 2006.

My research has concentrated on constructing statistical models of the shape and appearance of objects in images, and in developing algorithms to match such models to new images. We have applied these models to many problems in the industrial and medical domains, and to the interpretation of facial images.

Colin Farquharson

Edinburgh, UK

Colin Farquharson completed his PhD at the University of Aberdeen in 1989. His 1st post-doctoral position led to a career long interest in skeletal biology. He obtained his chair in Skeletal Biology from the University of Edinburgh in 2010 where he is presently a group leader and Director of Postgraduate Research within the Royal (Dick) School of Veterinary Studies. His research

programme is focussed on the cellular mechanisms underpinning bone and cartilage development. In particular, his research aims are to develop a functional understanding of the role of phosphatases in skeletal mineralisation and was the discoverer of PHOSPHO1. He has published over 170 papers/book chapters and supervised 22 PhD students to completion and is presently supervising 8 others. He is past secretary of the Bone Research Society (UK) and member of the Arthritis Research UK Fellowships Implementation Committee. He is at present Deputy Chair of the Veterinary Advisory Committee of the Horserace Betting Levy Board (HBLB) in the UK and Co-Editor-in-Chief for the Journal of Endocrinology and Journal of Molecular Endocrinology.

Kassim Javaid

Oxford, UK

Dr Javaid is an adult rheumatologist at the Oxford University Hospitals NHS trust and an Associate Professor in metabolic bone disease at the University of Oxford. He specializes in clinical and research of common and rare metabolic bone diseases. He is the clinical lead for Oxford Fracture Prevention Service and the national Fracture Liaison Service Audit for England and Wales run through the Royal College of Physicians.

Internationally, he co-chairs the International Osteoporosis Foundation Capture the Fracture programme that has audited over 400 services globally. He is clinical lead for the Oxford Rare bone disease service for adults and the national 100,000 Genomes Clinical Interpretation partnership for musculoskeletal conditions. His research interests include epidemiology of musculoskeletal diseases with a focus on rare diseases of the bone, vitamin D and secondary fracture prevention.

Anjali Kusumbe

Oxford, UK

Anjali Kusumbe is the head of the Tissue and Tumour Microenvironments Group at the MRC Human Immunology Unit and MRC Weatherall Institute of Molecular Medicine at the University of Oxford. She received an MRC Career Development Award in 2017 and ERC Starting Grant in 2019 to lead her independent research programme on vessel-tissue interactions in the skeleton. She completed her postdoctoral research at the Max Planck Institute for Molecular Biomedicine, Germany in 2016. She pursued her doctoral studies with a fellowship from the Council of Scientific and Industrial Research, India and was awarded a PhD in 2012. Anjali received the Werner-Risau Memorial Award (from German Society for Cell Biology), Iain T Boyle Memorial Award (from European Calcified Tissue Society), Alice L. Jee Award (from Orthopaedic Research Society), John Goldman Fellowship (from Leukaemia UK), and Kennedy Trust for Rheumatology Research (KTRR) Senior Research Fellowship for her work. She was an elected member of the European Calcified Tissue Society Academy, where she also served as the task force leader of the mentoring committee for students and postdocs.

Deborah Mason

Cardiff, UK

Deborah Mason is Preclinical Research Director in the Biomechanics and Bioengineering Research Centre Versus Arthritis at Cardiff University. Her research using cell, animal, and human models aims to reveal biological mechanisms linking mechanical loading, pain, inflammation and joint destruction in arthritis, and exploit this for patient benefit.

After her BSc (Zoology and Genetics) and PhD (Evolutionary Genetics) in Cardiff, her research at Bristol implicated glutamatergic signalling in mechanically-induced bone formation. This new

therapeutic opportunity led to granted patents and pharmaceutical collaborations. She has also developed in vitro models for drug screening, and reported new approaches to standardise molecular measurement, and conduct of preventative clinical trials for osteoarthritis.

Current roles include President of the British Orthopaedics Research Society, membership of both the Musculoskeletal Research Advisory Group Versus Arthritis and the International Combined Orthopaedic Research Societies Committee, and Theme Lead in the OATech network+, with previous roles on ORS and BRS Committees.

Eugene McCloskey

Sheffield, UK

Born in Loughgiel, Northern Ireland, I studied medicine at Trinity College Dublin before arriving in Sheffield in 1985 via house officer posts in Ayrshire. I developed my longstanding interest in metabolic bone diseases via an MRC Training Fellowship. My initial interests were in the field of malignant bone disease, but subsequently focussed on osteoporosis. I have been the principal investigator in a number of MRC and pharmaceutical industry-funded studies.

I am an acknowledged expert in the fields of vertebral fracture definition, osteoporosis epidemiology as well as non-invasive assessments of bone strength and fracture risk. I have published over 150 peer-reviewed articles, book chapters, guidelines, and reviews. I am the educational lead and teaching coordinator for Musculoskeletal Medicine across the various phases of the undergraduate curriculum at the University of Sheffield, as well as teaching on postgraduate courses (e.g. MSc in Molecular Medicine, Molecular and Cellular Basis of Disease module). I am currently secretary of the Bone Research Society, chair of the American Society for Bone and Mineral Research Ancillary Program Committee and a member of the National Specialty Group for Musculoskeletal Diseases. I also chair the Implementation Committee of the National Osteoporosis Guidance Group.

Michelle McDonald

Darlinghurst, Australia

Associate Professor Michelle McDonald's research careers spans over 19 years, attaining her PhD in 2008 at The Kids Research Institute, Westmead, she is currently Group Leader of the Bone Microenvironment Group at The Garvan Institute of Medical Research, Sydney, Australia. Through the development of a novel intravital imaging technique her research has allowed, for the first time, visualisation and fate tracking of dormant and actively growing tumour cells within living bone, as well as visualisation of bone cells in real time. This approach has revealed previously unappreciated bone cell dynamics and interactions, thereby advancing our fundamental understanding of osteoclast biology, and uncovering mechanisms behind clinical responses to anti-resorptive therapies. Her research is working to define how these agents can be repurposed to prevent metastatic outgrowth through regulating the bone micro-environment. This work has recently attracted a number of awards, and grants and spans collaborations with academic and industry partners internationally.

Carolina Medina Gomez

Rotterdam, The Netherlands

Dr Carolina Medina Gomez is a postdoctoral researcher at the Erasmus MC University Medical Center Rotterdam, the Netherlands. She obtained her PhD in 2016 and was awarded multiple recognitions including the New Investigator award by ECTS, ASBMR and ICBBH. Her work in genetic epidemiology in admixed populations gave her the opportunity to visit the Children Hospital of Philadelphia financed by the European Union. She is the main genetic analysts of the ErasmusMC cohorts and has led many projects within the GEFOS/GENOMOS consortium. Her findings have contributed to underscore the importance of molecules such as WNT16 in bone

biology. Her work is at the forefront of cutting-edge methods in genomics (including not only genetic data but also transcriptomics). Since 2016, she he extended her research to microbiome research having a lead role in the MiBioGen consortium trying to bring together genetic, genomic and gut microbiome data. Currently her work is focusing on the effect of the gut microbiome on the musculoskslta system and its possible role in the correlation between osteoporosis/sarcopenia and type 2 diabetes.

Thomas O'Leary

Andover, UK

Dr Thomas O'Leary joined the British Army as a civilian scientist in 2015, where he initially led studies on sex differences in physiological responses to basic training and skeletal adaptations in military recruits. Since 2017, he has been researching the health and performance risks of women joining infantry roles. He is the Laboratory Director of the Army's Human Performance Laboratories and PI on several trials investigating menstrual function and stress fracture risk, and the effect of calcium intake during low energy availability on bone and calcium metabolism in women. His research interests are in female soldier physiology, skeletal adaptations to military training and employment, and predictive modelling of health outcomes.

Raja Padidela

Manchester, UK

Dr Padidela is a consultant in Paediatric Endocrinology & Metabolic Bone Disorders at the Royal Manchester Childrens' Hospital, UK where he currently leads the Bone and Mineral disorder service. He completed his training in Paediatric Endocrinology at the Royal London Hospital, Great Ormond Street Hospital and the University College London Hospital. Dr Padidela completed his MD (Research) training in genetics of childhood growth at the Institute of Child Health, University College London. Dr Padidela has a strong interest in research and is managing clinical trials in new medications for bone disorders. He is recognised nationally and internationally for his teaching and training in this speciality. Also, he has authored numerous peer reviewed journal articles and book chapters. He advises nationally and internationally on the management of children with Metabolic Bone & Mineral Disorders.

Andy Pitsillides

London, UK

Andrew was educated in London; he received an Applied Biology BSc. (Hons, 1984) and a PhD. in Biochemistry (1988) funded by a Special Wellcome Trust Award, under Joe Chayen, Helen Muir and Ita Askonas, at the world renown Kennedy Institute of Rheumatology.

His work in joint biology continued at UCL with Jo Edwards and Mike Bayliss (1990-93) where he was the first to characterise type B synovial lining cells based upon their extracellualr matrix synthesis. He undertook further postdoctoral studies with Lance Lanyon at RVC where set-up his own lab in 1995. His research has discovered that: nitric oxide is critical in bone mechano-adaptation, with a genetic component linked to growth, that joint formation is mechanodependent and that cartilage trauma susceptibility is not always linked to its vulnerability to osteoarthritis, which can itself be transcriptionally linked to NFkB activation. He disclosed distinct osteocyte/osteoblast inputs in load's osteogenic output, and joined these to osteoporosis though spatial links to femoral neck bone turnover. Recent advances have focused on pioneering a non-invasive model of in vivo loading that allows tibial cortices and trabecular compartments to be simultaneously studied in wild type and transgenic species; the model has been extended for use in studying joint mechanics, osteoarthritis and responses to trauma. His group are also extending a UK legacy through their preservation and exploration of the spontaenous osteoarthritis in STR/Ort mice.

SPEAKER PROFILES

Frank Rauch

Montreal, Canada

Frank Rauch, MD, is a Professor of Pediatrics and clinician-scientist at the Shriners Hospital for Children and at McGill University in Montreal, Canada. He obtained his MD degree from the Technical University of Munich and trained as a pediatrician at the Children's Hospital of Cologne University, Germany. At Shriners Hospital since 2001, his clinical activities and research program concentrate on improving bone health in children, with a special focus on osteogenesis imperfecta and on the role of the muscle system in bone diseases. He is also collaborating with Statistics Canada in a national population-based study that assesses muscle and bone health in Canadians. Dr. Rauch has authored or co-authored more than 400 publications that have been cited more than 26,000 times.

Scott Roberts

London, UK

Scott began his research career at the Roslin Institute (Edinburgh) where he obtained his PhD researching the role of a novel enzyme, PHOSPHO1, in the mineralisation process. This work led to a new understanding of bone mineralisation, which has now been globally accepted. Scott started working on the periosteum in 2009 at KU Leuven (Belgium), where he used transcriptomic analysis of in vivo events to define regulators of tissue formation. During his time in Belgium, Scott was awarded a fellowship from the Scientific Research Council of Flanders. Scott subsequently moved to UCL as Lecturer, and later to UCB Pharma as a Senior Principal Scientist where he identified musculoskeletal drug targets and led subsequent discovery efforts, whilst supporting Bimekizumab and Romosozumab programs. In August 2019 Scott was appointed Senior Lecturer in Translational Skeletal Research at the Royal Veterinary College (RVC). Scott's research group at the RVC aims to identify and target cells/pathways to control bone and cartilage formation. Scott has published 54 manuscripts to date (peer-reviewed; h-index 29; Citations 3042).

Marc Sim

Perth, Australia

Marc is a Senior Research Fellow at Edith Cowan University within the Nutrition and Health Innovation Research Institute. He obtained his PhD in Exercise Nutrition in 2014 and has over 70 publications to date. Marc currently holds Fellowships from the Royal Perth Hospital Research Foundation as well as the Future Health and Innovation Fund from the Western Australia Department of Health. His research evaluates and develops better evidence for identifying risk factors, muscle biomarkers and modifiable lifestyle factors (diet and exercise) to prevent falls and fractures. He has uncovered clear benefits of higher vegetable intake including the first evidence to identify benefits of specific types, such as cruciferous and green leafy, for musculoskeletal health. His research is underpinned by his experience as a registered nutritionist accredited exercise scientist. Marc is actively involved in various committees and events for the Australian and New Zealand Bone and Mineral society.

Hanna Taipaleenmäki

Hamburg, Germany

Hanna Taipaleenmäki (PhD) is Professor at the Faculty of Medicine at the Ludwig-Maximilian-University (LMU) Munich in Munich, Germany. During her PhD training at the University of Turku, Finland, and at the Endocrine Research Unit, Odense University Hospital, Denmark, she investigated the regulation of bone formation by non-coding RNAs. During her post-doctoral training at the University of Massachusetts Medical School, USA and at the University Medical Center Hamburg-Eppendorf

(UKE), Germany, she further elucidated the contribution of microRNAs in pathological bone remodeling with a focus on cancer-induced bone disease. Funded by an excellence program of the German Research Foundation (DFG) she established her own research group at the UKE focusing on breast cancer-induced metastatic bone disease and muscle weakness, which she led until recruited to LMU. Her work has been recognized by several prestigious awards and published in top tier scientific journals. Dr. Taipaleenmäki is an active member of several scientific societies and serves on Editorial Boards and as reviewer of scientific journals.

Jenny Taylor

Oxford, UK

Jenny Taylor is Associate Professor of Translational Genomics at University of Oxford and Co-Theme Leader of the Oxford Biomedical Research Centre's Genomic Medicine Theme, a translational programme funded by the UK's National Institute of Health Research based at the University of Oxford's Wellcome Centre for Human Genetics.

Jenny's research currently focuses on the application of whole genome sequencing (WGS) to the diagnosis of rare genetic diseases and cancer, and investigation of novel disease genes emerging, applying a range of functional approaches. She was a co-investigator on the WGS500 project, which was a forerunner to the UK's 100,000 Genomes Project and also led a team to establish the clinical framework and infrastructure for WGS within the Oxford hospital setting. She continues to participate in the Genomics England programme through its Clinical Interpretation Partnerships.

Tonia Vincent

Oxford, UK

Tonia Vincent studied medicine at University College London, qualifying in 1993. She trained as a junior doctor in London, later specialising in Rheumatology. In 1998 she undertook a PhD at the Kennedy Institute of Rheumatology under Professor Jeremy Saklatvala. She continued at the Kennedy Institute as a Wellcome Trust clinician scientist and then as an Arthritis Research UK Senior Fellow. In 2012 the Kennedy Institute moved to the University of Oxford and she was appointed Professor of Musculoskeletal Biology. She directs the Versus Arthritis-funded Centre for Osteoarthritis Pathogenesis. Her research interests include the molecular pathways that explain how cartilage responds to injury and their role in structural and symptomatic osteoarthritis. She continues to be clinically active, running both hand osteoarthritis clinics and a multidisciplinary Marfan Syndrome clinic.

Jarod Wong

Glasgow, UK

Dr Wong is Senior Clinical Lecturer/Consultant Paediatric Endocrinologist based at the Royal Hospital for Children in Glasgow. Dr. Wong's previously trained in Liverpool, Glasgow and Melbourne. His major clinical and research interest is in the impact of chronic disorders on growth, puberty and skeletal development; and the muscle-bone interaction in health and disease states. Dr. Wong runs a multi-disciplinary endocrine-bone clinic for paediatric boys with Duchenne muscular dystrophy, and a transition young adult clinic. He is involved in national initiatives to develop and implement standards of care of endocrine and bone management for DMD.