

ANZBMS 2005 Annual Scientific Meeting

7-9 September 2005, Perth WA

PROGRAM

KEYNOTE SPEAKERS

RAJESH V. THAKKER

University of Oxford, Oxford, UK

Dr. Raj Thakker (UK), the May Professor of Medicine at the University of Oxford, is a consultant physician at the Nuffield Department of Clinical Medicine and the John Radcliffe Hospital. His career achievements include seminal studies on the genetic causes of hereditary endocrine disorders including multiple endocrine neoplasia type 1, X-linked hypophosphatemic rickets, autosomal dominant and autosomal recessive forms of hypoparathyroidism, familial hypocalcaemia with hypercalciuria, HDR syndrome, and Dent's disease. His recent functional studies address the roles of mutant calcium sensing receptor in FHH, chloride channels in HDR syndrome and GATA3 transcription factor in Dent's disease. Professor Thakker has been awarded the European Journal of Endocrinology Prize from the European Federation of Endocrine Societies (EFES), and the Graham Bull Prize for Clinical Science from the Royal College of Physicians (UK). He is an Associate Editor of the *Journal of Bone and Mineral Research* and a member of the Editorial Board of *Endocrinology*.

BRENDAN F. BOYCE

University of Rochester Medical Centre, Rochester, New York, USA

Dr. Brendan Boyce is Professor of Pathology and Laboratory Medicine and of Orthopaedics at the University of Rochester Medical Centre in New York. His primary research focus is the regulation of osteoclast formation, activation and survival. Present studies in his laboratory are focused on the roles of NF- κ B and *src* tyrosine kinase in the increased bone resorption and decreased bone formation that characterise a number of bone diseases, including postmenopausal osteoporosis, inflammatory joint disease, metastatic bone disease and loosening of orthopaedic implants. The excellence of the research from Professor Boyce's group is widely recognised, including the President's Award for Most Outstanding Abstract at the 1997 Annual Scientific Meeting of the American Society of Bone and Mineral Research. Professor Boyce is currently President of the International Society of Bone Morphometry and a member of the Editorial Boards of the *Journal of Bone and Mineral Research* and *Endocrinology*.

SCIENTIFIC PROGRAM

WEDNESDAY, 7 SEPTEMBER 2005

PERTH CONVENTION CENTRE

- 08:30 - 09:30 *Chair - Mark McLean*
M4. Level 2
IP1 **New roles for old hormones and the Gordian knot of human birth**
Roger Smith
- 09:30 - 10:00 *Morning Tea*
- 10:00 - 12:00 **ANZBMS / ESA BONE SYMPOSIUM**
Osteoporosis therapeutic update
Sponsored by Merck Sharp & Dohme
Chairs - Ego Seeman & Jeffrey Zajac
M5. Level 2
- 10:00 - 10:30 IP2 **Mechanisms of action in current and emerging therapies**
Prof. Jack Martin
- 10:30 - 11:00 IP3 **Calcium supplementation and/or vitamin D in osteoporosis - myth or reality?**
A/Prof. Richard Prince
- 11:00 - 11:30 IP4 **Sex hormone replacement and SERMs**
Prof. John Eisman
- 11:30 - 12:00 IP 5 **Osteoporosis: Whom to treat? What drug?**
Prof. Richard Eastell
- 12:15 *Coach to Burswood*

BURSWOOD

- 12:30 - 14:30 *Lunch and trade displays*

(All sessions this afternoon will be plenary style and located in Plaza Ballroom East)
- 13:00 - 14:30 **Industry Symposium**
Sponsored by Servier Laboratories

Chair - Jack Martin
IP6 **Protos: a new way to treat post-menopausal osteoporosis**
Prof. Ego Seeman, Prof. John Eisman & Prof. Philip Sambrook
- 14:30 - 16:00 **WHAT'S NEW IN THE PARATHYROID?**
Chairs - Philip Sambrook & Ian Reid
- 14:30 - 15:00 IP7 **Genetics of parathyroid gland development and hypoparathyroidism**
Prof. Rajesh Thakker
- 15:00 - 15:30 IP8 **Hyperparathyroidism and parathyroid carcinoma - insights from gene profiling**
Dr. Deborah Marsh
- 15:30 - 16:00 IP9 **The changing face of parathyroid surgery**
Prof. Leigh Delbridge
- 16:00 - 16:30 *Afternoon Tea*

- 16:30 - 18:00 **APPROACHES TO PROBLEMS OF SKELETAL INTEGRITY**
Chairs - Jill Cornish & Kong Wah Ng
- 16:30 - 17:00 IP10 **Therapeutic approaches to metastatic bone disease**
Prof. Brendan Boyce
- 17:00 - 17:30 IP11 **Targeting of bone cancer with Apo2L/TRAIL**
Dr. Andreas Evdokiou
- 17:30 - 18:00 IP12 **Prospective isolation of mesenchymal stem cells in man and mouse**
Prof. Paul Simmons
- 18:00 - 20:00 **Posters and Welcome Reception**
Exhibition Area

THURSDAY, 8 SEPTEMBER 2005

- 07:00 - 08:00 *Merck Sharp & Dohme Fun Run*
- 08:30 - 10:30 **CALCIUM SENSING RECEPTOR**
Plaza Ballroom East
Chairs - Matthew Brown & Tom Ratajczak
- 08:30 - 09:10 IP13 **The calcium sensing receptor (CaSR) and its seven clinical disorders**
Prof. Rajesh Thakker
- 09:10 - 09:40 IP14 **Clinical implications of the calcium-sensing receptor's multiple sensing domains**
A/Prof. Arthur Conigrave
- 09:40 - 10:30 **FREE ORALS**
Plaza Ballroom East
- 09:40 - 09:50 ****OUTSTANDING ABSTRACT AWARD WINNER****
- O1 **High bone turnover predicts mortality in the frail elderly: a prospective cohort study**
Markus Seibel, PN Sambrook, C Chen, L March, I Cameron, R Cumming & J Simpson
- 09:50 - 10:00 ****OUTSTANDING ABSTRACT AWARD WINNER****
- O2 **IL-11 and IL-6 stimulation of osteoclast formation depends on STAT but not ERK-mediated pathways in osteoblasts**
Julian Quinn, A Nakamura, BJ Jenkins, NA Sims, M Ernst, TJ Martin & MT Gillespie
- 10:00 - 10:10 O3 **AC45, a V-ATPase accessory subunit interacts with VO domain subunits and is necessary for osteoclastic bone resorption**
Taksum Cheng, H Feng, KHM Yip, A Carrello, R Seeber, KM Kroeger, K Eidne, MH Zheng & J Xu
- 10:10 - 10:20 O4 **Calcium supplement for improving bone mineral density in children: systematic review**
Tania Winzenberg, K Shaw, J Fryer & G Jones
- 10:20 - 10:30 O5 **Global knock-down of the calcitonin receptor (CTR) in young female mice results in decreased trabecular bone volume**
Rachel Davey, JF McManus, AJ Moore, WSM Chiu, AM Axell, AJ Notini, HA Morris, DM Findlay & JD Zajac
- 10:30 - 11:00 *Morning Tea*
- 11:00 - 12:45 **YOUNG INVESTIGATOR AWARD PRESENTATIONS**
Plaza Ballroom East
Chairs - Jack Martin & Roger Price

- 11:00 - 11:15 O6 **Differential activity of human RUNX2 P2 promoter alleles associated with an allele-specific DNA-protein interaction**
James Doecke, CJ Day, AJ Stephens, G Nicholson & N Morrison
- 11:15 - 11:30 O7 **MCP-1 induces super abundant NFATC1 expression and results in TRAP+ multinuclear cells with calcitonin receptor expression, but these fail to resorb bone and are not osteoclasts**
Michael Kim, CJ Day, CL Magno, SRJ Stephens & NA Morrison
- 11:30 - 11:45 O8 **Remaining lifetime risk of fractures in elderly men and women**
Nguyen Nguyen Dinh, H Alhborg, JR Center, JA Eisman & TV Nguyen
- 11:45 - 12:00 O9 **Paget's disease in people inheriting mutations in the P62 gene**
Mark Bolland, K Callon, D Naot, PC Tong, D Wattie & T Cundy
- 12:00 - 12:15 O10 **Glutamine repeat mutations define a new CBFA1/RUNX2 related syndrome with decreased femoral neck BMD, decreased calcaneal broadband ultrasound and increased risk of osteoporotic fracture**
Alex Stephens, JD Doecke, SH Ralston, RL Prince, GC Nicholson & NA Morrison
- 12:15 - 12:30 O11 **Variations in the mode of loading along the bone influences its architecture rather than the amount of its mineralised mass**
Roger Zebaze, A Jones, M Knackstedt & E Seeman
- 12:30 - 12:45 O12 **Targeted silencing of cathepsin K with siRNA in primary human osteoclast cells**
Tina Selinger, CJ Day & NA Morrison
- 12:45 - 14:30 *Lunch and trade displays*
- 13:00 - 14:30 **Industry Symposium**
Sponsored by Sanofi Aventis
Plaza Ballroom East
- IP15 **The role of bone strength in osteoporosis**
Prof. Philip Sambrook
- IP16 **Surrogate markers: how much do they really tell us about fracture risk reduction?**
Prof. Richard Eastell
- 14:30 - 16:00 **CONCURRENT SESSIONS**
- 14:30 - 15:30 **CLINICAL FREE ORALS**
Chairs - Peter Nash & Jacqueline Center
Plaza Ballroom East
- 14:30 - 14:40 O13 **Pamidronate therapy for one year after allogeneic stem cell transplantation (AlloSCT) reduces bone loss from the lumbar spine, femoral neck and total hip**
Peter Ebeling, P Shuttleworth, J Reynolds, J Szer, AP Schwarzer, AW Roberts, KF Bradstock, C-H Hui, R Herrmann & AC Grigg
- 14:40 - 14:50 O14 **Zoledronic acid in children: effect on growth, bone development and bone and mineral metabolism**
Craig Munns, JYH Hong, J Briody, M McQuade, DG Little & CT Cowell
- 14:50 - 15:00 O15 **Clinical outcomes, risk of new incident vertebral fractures and survival of patients presenting with acute osteoporotic vertebral fractures: percutaneous vertebroplasty is superior to conservative therapy**
Terry Diamond, C Bryant, L Browne & WA Clark
- 15:00 - 15:10 O16 **Hormone therapy use after the release of principal results from the WHI trial**
Sam Korn, JA Pasco, MJ Henry, GC Nicholson & MA Kotowicz

- 15:10 - 15:20 O17 **Calcium malabsorption does not increase serum parathyroid hormone in postmenopausal women**
Allan Need, M Horowitz, P O'Loughlin, P Coates & C Nordin
- 15:20 - 15:30 O18 **Calcium-vitamin D3 fortified milk reduces bone loss in middle aged and older men: a 2-year randomised controlled trial**
Robin Daly, M Brown, S Bass, S Kukuljan & C Nowson
- 15:30 - 16:00 IP17 **Keynote presentation**
Chondrocalcinosis and ankylosing spondylitis - two sides of the pyrophosphatase coin
Prof. Matthew Brown
- 14:30 - 15:30 **BASIC FREE ORALS**
Chairs - Rebecca Mason & Gerald Atkins
Plaza Ballroom Central
- 14:30 - 14:40 O19 **Adult deletion of hypothalamic Y2 receptors improves bone mass following gonadectomy in mice**
Susan Allison, PA Baldock, A Sainsbury, RF Enriquez, M During, JA Eisman, H Herzog & EM Gardiner
- 14:40 - 14:50 O20 **Central regulation of cortical bone mass and osteoblast activity by Y2 receptors: comparison to leptin pathway**
Paul Baldock, S Allison, A Sainsbury, RF Enriquez, H Herzog, EM Gardiner & JA Eisman
- 14:50 - 15:00 O21 **Inhibition of glucocorticoid signaling by overexpression of 11beta HSD2 in mature osteoblasts inhibits nodule formation and increases adipogenesis in vitro**
Hong Zhou, K Brennan, Y Zheng, CR Dunstan & MJ Seibel
- 15:00 - 15:10 O22 **Osteoblast targeted overexpression of hydroxysteroid dehydrogenase type 2 induces delayed calvarial development in transgenic mice**
Colin Dunstan, H Zhou, K Brennan, Y Zheng & MJ Seibel
- 15:10 - 15:20 O23 **Differential activation of intracellular Ca²⁺ mobilization and ERK1/2 phosphorylation by the extracellular Ca²⁺-sensing receptor stimulated by Ca²⁺ ions or L-amino acids**
Hee-Chang Mun, HJ Lee, NC Lewis, EL Culverston, RS Mason & AD Conigrave
- 15:20 - 15:30 O24 **Mutational analysis of exoloop-3 residues of the calcium-sensing receptor points to a constraining effect of core residues on wild-type calcium-sensing receptor activation**
Bryan Ward, AJ Rea, AL Magno & T Ratajczak
- 15:30 - 16:00 IP18 **Keynote presentation**
Regulating pathways subserving osteoblast function
A/Prof. Jill Cornish
- 16:00 - 16:30 *Afternoon Tea*
- 16:30 - 17:30 **CONCURRENT SESSIONS**
- 16:30 - 17:30 **CLINICAL FREE ORALS**
Chairs - Nicholas Pocock & Peter Ebeling
Plaza Ballroom East
- 16:30 - 16:40 O25 **Maternal vitamin D status and offspring birth size: a prospective study**
John Wark, R Morley, J Carlin & J Pasco
- 16:40 - 16:50 O26 **Factors associated with skeletal age deviation in children**
Graeme Jones, M Gutteridge & D Ma
- 16:50 - 17:00 O27 **A comparison of BMD and demographic data for predicting clinical fractures over 5 years**
Ian Dick, A Devine & RL Prince

- 17:00 - 17:10 O28 **Genetic effects on bone loss in peri and post menopausal women: a longitudinal twin study**
Joanna Makovey, V Naganathan, TV Nguyen & P Sambrook
- 17:10 - 17:20 O29 **Genetics and remaining lifetime risk of fracture: the collagen I alpha 1 gene**
Tuan Nguyen, ND Nguyen, JR Center & JA Eisman
- 17:20 - 17:30 O30 **Estimating the prevalence of coeliac disease in osteodeficient patients**
Louise Wienholt, MJ Hooper, AM Kean, A Conigrave, R Loblay & AJ Williams
- 16:30 - 17:30 **BASIC FREE ORALS**
Chairs - David Findlay & Geoff Nicholson
Plaza Ballroom Central
- 16:30 - 16:40 O31 **Osteoclast formation is strongly reduced in the absence of CD47/SIRP α -interaction**
Pernilla Lundberg, C Koskinen, H Löthgren, Å Stenberg, UH Lerner & P-A Oldenborg
- 16:40 - 16:50 O32 **Cardiotrophin-1 regulates osteoclast formation and function in a manner distinct from other gp130 cytokines**
Natalie Sims, JMW Quinn, H Saleh & TJ Martin
- 16:50 - 17:00 O33 **Scaffold protein p62 modulates osteoclastogenesis through the regulation of RANKL signaling cascades and TRAF6 in the ubiquitin-mediated proteasomal pathways**
Kirk Yip, MH Zheng & J Xu
- 17:00 - 17:10 O34 **Thioredoxin binding protein-2 is a key inhibitor of osteoclastic bone resorption**
Jason Hodge, GC Nicholson & CJ Aitken
- 17:10 - 17:20 O35 **Human osteoclast differentiation and function are stimulated by exogenous ROS and RANKL-induced intracellular ROS production**
Lauren Hodgson, CJ Aitken, JM Hodge, MA Chacksfield & GC Nicholson
- 17:20 - 17:30 O36 **Caffeic acid phenethyl ester, a natural component of honeybee propolis induces osteoclast apoptosis and attenuates osteoclastogenesis via the suppression of RANKL-induced NF- κ B and NFAT activity**
Jiake Xu, LY Chai, ESM Ang, N Pavlos, KHM Yip, JH Steer, DA Joyce & MH Zheng
- 17:30 - 18:30 **Annual General Meeting and Awards**
Plaza Ballroom East
- 19:30 - 23:00 ***Gala Dinner***
Grand Ballroom 1, Burswood

FRIDAY, 9 SEPTEMBER 2005

- 09:00 - 10:15 **OSTEOCLAST BIOLOGY AND PAGET'S DISEASE**
Chairs - Kay Ibbertson & Matthew Gillespie
Plaza Ballroom East
- 09:00 - 09:45 IP19 **Cytokine regulation of osteoclast formation through NF- κ B, c-Fos and NFATs**
Prof. Brendan Boyce
- 09:45 - 10:15 IP20 **Paget's disease - genes, hyperparathyroidism, bisphosphonates, BMD and fracture responses**
Prof. Don Gutteridge
- 10:15 - 10:45 *Morning Tea*
- 10:45 - 12:15 **CONCURRENT ORALS**

10:45 - 11:45		<u>CLINICAL FREE ORALS</u> <i>Chairs – Tuan Nguyen & John Wark</i> Plaza Ballroom East
10:45 - 10:55	O37	A novel mutation (K378X) in the sequestosome 1 gene: association with a severe Pagets disease of bone phenotype and functional implications of NF-kB activation <u>Sarah Morgan</u> , L Ward, BK Ward, J Walsh, J Xu, B Stuckey, N Kent & T Ratajczak
10:55 - 11:05	O38	High IGFBP-2 levels are associated with an increased risk of osteoporotic fractures in elderly men <u>Jacqueline Center</u> , MJ Seibel, TV Nguyen, C Meier & JA Eisman
11:05 - 11:15	O39	Estradiol predicts 5 year fracture risk and forearm cortical density, volume and strength <u>Amanda Devine</u> , RL Prince, SS Dhaliwal & IM Dick
11:15 - 11:25	O40	Having a non-melanoma skin cancer decreases the risk of subsequent fracture: a record linkage study <u>Graeme Jones</u> , V Srikanth, J Fryer, L Blizzard, A Venn, L Newman, H Cooley & T Albion
11:25 - 11:35	O41	Older women with higher levels of physical activity and dietary calcium intake have stronger bones <u>Michelle Nurzenski</u> , NK Briffa, RI Price, B Khoo, A Devine, TJ Beck & RL Prince
11:35 - 11:45	O42	Non-invasive, nonionizing discriminators of prevalent vertebral fracture cases: a QUS-based model <u>BK Tan</u> , RI Price, S Song, SS Dhaliwal & KP Singer
11:45 - 12:15	IP21	Keynote presentation The burden of fracture Dr. Julie Pasco
10:45 - 11:45		<u>BASIC FREE ORALS</u> <i>Chairs - Nigel Morrison & Edith Gardiner</i> Plaza Ballroom Central
10:45 - 10:55	O43	Evidence for LRP1-independent actions of lactoferrin in osteoblasts <u>Qing Zhu</u> , J Cornish, M Watson, K Callon, IR Reid & A Grey
10:55 - 11:05	O44	Dickkopf's are expressed by breast cancer cell lines and regulated by PTHrP <u>Karl Hausler</u> , M Ciccomancini, N Ilievski, TJ Martin & M Gillespie
11:05 - 11:15	O45	Cyclooxygenase-2 mediates thrombin's inhibition of osteoblast apoptosis by a Par-1-independent mechanism <u>Lay Hoon Loh</u> , CN Pagel, S Merlin, E Tudor, RN Pike & EJ Mackie
11:15 - 11:25	O46	Anabolic and catabolic bone defects in a mouse model of type 1 neurofibromatosis (NF1) <u>Aaron Schindeler</u> & DG Little
11:25 - 11:35	O47	PTHrP sensitises breast cancer cells to Apo2L/TRAIL-mediated cell death <u>Steve Bouralexis</u> , TJ Martin & MT Gillespie
11:35 - 11:45	O48	Zoledronic acid treatment enhances hard callus formation without delaying endochondral repair in a rat fracture M McDonald, <u>Craig Godfrey</u> , S Dulai & DG Little
11:45 - 12:15	IP22	Keynote presentation Intracellular vesicle transport is required for bone resorption Dr. Nathan Pavlos
12:15 - 12:30		Concluding remarks Plaza Ballroom East Dr. Jill Cornish
12:30		Close of Meeting