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-κB 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

**PERTH CONVENTION CENTRE**

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<tr>
<th>Time</th>
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| 08:30  | **Chair - Mark McLean**  
|        | M4. Level 2  
|        | IP1 New roles for old hormones and the Gordian knot of human birth  
|        | Roger Smith  |
| 09:30  | **Morning Tea**  |
| 10:00  | **ANZBMS / ESA BONE SYMPOSIUM**  
|        | Osteoporosis therapeutic update  
|        | *Sponsored by Merck Sharp & Dohme*  
|        | Chairs - Ego Seeman & Jeffrey Zajac  
|        | M5. Level 2  
| 10:00  | IP2 Mechanisms of action in current and emerging therapies  
|        | Prof. Jack Martin  |
| 10:30  | IP3 Calcium supplementation and/or vitamin D in osteoporosis – myth or reality?  
|        | A/Prof. Richard Prince  |
| 11:00  | IP4 Sex hormone replacement and SERMs  
|        | Prof. John Eisman  |
| 11:30  | IP5 Osteoporosis: Whom to treat? What drug?  
|        | Prof. Richard Eastell  |
| 12:15  | **Coach to Burswood**  |
| 12:30  | **Lunch and trade displays**  |
|        | (All sessions this afternoon will be plenary style and located in Plaza Ballroom East)  |
| 13:00  | **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  | **WHAT’S NEW IN THE PARATHYROID?**  
|        | Chairs – Philip Sambrook & Ian Reid  |
| 14:30  | IP7 Genetics of parathyroid gland development and hypoparathyroidism  
|        | Prof. Rajesh Thakker  |
| 15:00  | IP8 Hyperparathyroidism and parathyroid carcinoma – insights from gene profiling  
|        | Dr. Deborah Marsh  |
| 15:30  | IP9 The changing face of parathyroid surgery  
|        | Prof. Leigh Delbridge  |
| 16:00  | **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

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**

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 Schwarer, 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  Keynote presentation
IP17  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  Keynote presentation
IP18  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
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<tr>
<th>Time</th>
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<th>Title</th>
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<tr>
<td>17:00 - 17:10</td>
<td>O28</td>
<td>Genetic effects on bone loss in peri and post menopausal women: a longitudinal twin study</td>
<td>Joanna Makovey, V Naganathan, TV Nguyen &amp; P Sambrook</td>
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<td>17:10 - 17:20</td>
<td>O29</td>
<td>Genetics and remaining lifetime risk of fracture: the collagen I alpha 1 gene</td>
<td>Tuan Nguyen, ND Nguyen, JR Center &amp; JA Eisman</td>
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<td>17:20 - 17:30</td>
<td>O30</td>
<td>Estimating the prevalence of coeliac disease in osteodefficient patients</td>
<td>Louise Wienholt, MJ Hooper, AM Kean, A Conigrave, R Loblay &amp; AJ Williams</td>
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<tr>
<td>16:30 - 17:30</td>
<td>BASIC FREE ORALS</td>
<td>Chairs - David Findlay &amp; Geoff Nicholson</td>
<td>Plaza Ballroom Central</td>
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<tr>
<td>16:30 - 16:40</td>
<td>O31</td>
<td>Osteoclast formation is strongly reduced in the absence of CD47/SIRPα-interaction</td>
<td>Pernilla Lundberg, C Koskinen, H Löthgren, Å Stenberg, UH Lerner &amp; P-A Oldenborg</td>
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<td>16:40 - 16:50</td>
<td>O32</td>
<td>Cardiotrophin-1 regulates osteoclast formation and function in a manner distinct from other gp130 cytokines</td>
<td>Natalie Sims, JMW Quinn, H Saleh &amp; TJ Martin</td>
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<td>16:50 - 17:00</td>
<td>O33</td>
<td>Scaffold protein p62 modulates osteoclastogenesis through the regulation of RANKL signaling cascades and TRAF6 in the ubiquitin-mediated proteasomal pathways</td>
<td>Kirk Yip, MH Zheng &amp; J Xu</td>
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<td>17:00 - 17:10</td>
<td>O34</td>
<td>Thioredoxin binding protein-2 is a key inhibitor of osteoclastic bone resorption</td>
<td>Jason Hodge, GC Nicholson &amp; CJ Aitken</td>
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<td>17:10 - 17:20</td>
<td>O35</td>
<td>Human osteoclast differentiation and function are stimulated by exogenous ROS and RANKL-induced intracellular ROS production</td>
<td>Lauren Hodgson, CJ Aitken, JM Hodge, MA Chacksfield &amp; GC Nicholson</td>
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<td>17:20 - 17:30</td>
<td>O36</td>
<td>Caffeic acid phenethyl ester, a natural component of honeybee propolis induces osteoclast apoptosis and attenuates osteoclastogenesis via the suppression of RANKL-induced NF-κB and NFAT activity</td>
<td>Jiake Xu, LY Chai, ESM Ang, N Pavlos, KHM Yip, JH Steer, DA Joyce &amp; MH Zheng</td>
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<td>17:30 - 18:30</td>
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<td>Annual General Meeting and Awards</td>
<td>Plaza Ballroom East</td>
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<td>19:30 - 23:00</td>
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<td>Gala Dinner</td>
<td>Grand Ballroom 1, Burswood</td>
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**FRIDAY, 9 SEPTEMBER 2005**

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<th>Session</th>
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<tr>
<td>09:00 - 10:15</td>
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<td>OSTEOCLAST BIOLOGY AND PAGET’S DISEASE</td>
<td>Chairs - Kay Ibbertson &amp; Matthew Gillespie</td>
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<tr>
<td>09:00 - 09:45</td>
<td>IP19</td>
<td>Cytokine regulation of osteoclast formation through NF-κB, c-Fos and NFATs</td>
<td>Prof. Brendan Boyce</td>
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<tr>
<td>09:45 - 10:15</td>
<td>IP20</td>
<td>Paget’s disease – genes, hyperparathyroidism, bisphosphonates, BMD and fracture responses</td>
<td>Prof. Don Gutteridge</td>
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<td>10:15 - 10:45</td>
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<td>Morning Tea</td>
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<td>10:45 - 12:15</td>
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<td>CONCURRENT ORALS</td>
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10:45 - 11:45  CLINICAL FREE ORALS
Chairs – Tuan Nguyen & John Wark
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
Sarah Morgan, 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
Jacqueline Center, MJ Seibel, TV Nguyen, C Meier & JS Eisman

11:05 - 11:15  O39  Estradiol predicts 5 year fracture risk and forearm cortical density, volume and strength
Amanda Devine, 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
Graeme Jones, V Srikant, 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
Michelle Nurzenski, 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
BK Tan, RI Price, S Song, SS Dhaliwal & KP Singer

11:45 - 12:15  Keynote presentation
IP21  The burden of fracture
Dr. Julie Pasco

10:45 - 11:45  BASIC FREE ORALS
Chairs - Nigel Morrison & Edith Gardiner
Plaza Ballroom Central

10:45 - 10:55  O43  Evidence for LRP1-independent actions of lactoferrin in osteoblasts
Qing Zhu, 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
Karl Hausler, M Ciccomancini, N Ilijevski, TJ Martin & M Gillespie

11:05 - 11:15  O45  Cyclooxygenase-2 mediates thrombin's inhibition of osteoblast apoptosis by a Par-1-independent mechanism
Lay Hoon Loh, 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)
Aaron Schindeler & DG Little

11:25 - 11:35  O47  PTHrP sensitises breast cancer cells to Apo2L/TRAIL-mediated cell death
Steve Bouralexis, 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, Craig Godfrey, S Dulai & DG Little

11:45 - 12:15  Keynote presentation
IP22  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