

## International Conference on Osteoporosis and Bone Research, October 10-14, 2003, Beijing, China

### Forward

The International Conference on Osteoporosis and Bone Research sponsored by the Chinese Society of Osteoporosis and Bone Mineral Research, Chinese Medical Association and International Chinese Hard Tissue Society was held on Oct 10-14, 2003, Beijing, China.

The Detailed Scientific Program was as follows:

#### FRIDAY, OCTOBER 10, 2003

##### I. OPENING CEREMONY - Chair: Ling Xu

**Keynote talk:** Webster S.S. Jee - A Tribute to Harold M. Frost, M.D., Ph.D.

"The mechanostat hypothesis, the key component of the Utah Paradigm of Skeletal Physiology in load-bearing bones"

**Outstanding Contribution Award to Dr. Webster S.S. Jee**

#### SATURDAY, OCTOBER 11, 2003

##### II. OSTEOPOROSIS REVISITED - Chairs: Robert Recker, Annie Kung

**Keynote talk:** Edith Lau - "Epidemiology of osteoporosis in Asia"

**Robert Recker:** - "Genetics research in osteoporosis: Where are we and where should we go next?"

**John Bilezikian:** - "Osteoporosis in men"

##### OSTEOPOROSIS REVISITED (CONT.) - Chairs: Mingcai Qui, H-W Deng

**Annie Kung:** - "Heritability of bone mass in Chinese women"

**Yebin Jiang:** - "Micro CT 3D iliac microstructure of postmenopausal osteoporosis and its treatment"

##### III. NEW THERAPIES IN OSTEOPOROSIS - DETERMINANTS OF BONE AND MUSCLE STRENGTH

**Chairs:** Robert Recker, Annie Kung

**Keynote talk:** Eckhard Schönau - "Muscle mass during childhood - Relationship to skeletal development"

**Dennis Carter:** - "The role of musculoskeletal forces in the development and regulation of bone structure"

**Martin Runge:** - "Frailty and the risk of falling - Aging of the locomotor system"

##### DETERMINANTS OF BONE AND MUSCLE STRENGTH (CONT.) - Chairs: Xianzhen Luo, Darren Ji

**Erich Schacht:** - "The therapeutic effects of alfacalcidol on bone strength, muscle metabolism and prevention of falls and fractures"

**Sulin Cheng:** - "Physical activity and fitness in the prevention of osteoporosis"

**Liao Cui:** - "Preventing cancellous bone loss in steroid-treated rats and stimulating bone formation by salvia miltiorrhiza bunge"

**Peng Liu:** - "Abnormalities of osteoblast lineage differentiation in presenilin heterozygous knockout mice"

#### SUNDAY, OCTOBER 12, 2003

##### IV. NEW THERAPIES IN OSTEOPOROSIS [II] - Chairs: Hanmin Zhu, H.Z. Ke

**Douglas Axelrod:** - "Pushing the River: The flow of science to clinical application in bone disease"

**Jianju Gao:** - "Senility characters of the osteoclasts and osteoblasts"

**Lynda Bonewald:** - "Osteocyte biology: Its implications for osteoporosis"

##### NEW THERAPIES IN OSTEOPOROSIS [II] (CONT.)- Chairs: Jianli Liu, Di Chen

**Yetunde Taiwo:** - "Approaches in developing new anabolic therapies"

**Stephen Krane:** - "Potential role of matrix metalloproteinases in skeletal remodeling"

**Eryuan Liao:** - "Fibroblast growth factor and bone metabolism"

- V. **NEW THERAPIES IN OSTEOPOROSIS [III]- Chairs: Xueying Zhou, Yanfei Linda Ma**  
**Claude Arnaud** - "Using the anabolic effects of parathyroid hormone to treat osteoporosis"  
**David Ke** - "Receptor subtype selective Prostaglandin E2 agonists in bone formation and fracture healing"  
**Pirow Bekker** - "Clinical evidence of the bone antiresorptive effect of osteoprotegerin"

**NEW THERAPIES IN OSTEOPOROSIS [III] (CONT.) - Chairs: Wei Yu, Edith Lau**

- Yingyu Shi** - "Application of Chinese herbs to primary osteoporosis: Comprehensively improving the bone quality"  
**Shuming Xing** - "The effect of two different dosages of conjugated equine estrogen (CEE) and medroxyprogesterone acetate (MPA) on preventing bone loss in women at an early stage of menopause"  
**Ling Qin** - "A phytoestrogen-rich herbal formula for prevention of OVX induced bone loss in rats"  
**Yanfei Linda Ma** - "Bone effects of teriparatide are improved by raloxifene at clinically relevant doses"  
**Jianli Liu** - "Effects of raloxifene (RXL) on bone mineral density (BMD), and serum lipids in Chinese post-menopausal women with osteoporosis"

**MONDAY, OCTOBER 13, 2003**

- VI. **NEW THERAPIES IN OSTEOPOROSIS [IV] - Chairs: Xunwu Meng, Ling Qin**

- Hong-Wen Deng** - "Gene mapping and identification for osteoporosis"  
**Qiren Huang** - "Studies of genetics basis of osteoporosis in China"  
**Hanwen Wu** - "Secondary osteoporosis"

**NEW THERAPIES IN OSTEOPOROSIS [IV] (CONT.) - Chairs: Tianzun Tao, Y.B. Jian**

- Ji Li** - "Functional genomics and osteoclast bone biology: The OPG-RANKL-RANK signaling pathway"  
**Agnes Vignery** - "Genetic programming of macrophage multinucleation: osteoclastogenesis"  
**Gang Li** - "Mesenchymal stem cells (MSCS) and osteogenic gene expressions in human peripheral blood of patients with long bone fracture"  
**Xiaofang Wang** - "Dimorphism in axial and appendicular segment size and mass: Implications concerning differences in fracture risk by race and sex"  
**M.A. Dambacher** - "Non-invasive and *in vivo* 3D-evaluation of bone structures in the human forearm; a step toward an individual fracture risk prediction"

- VII. **THERAPIES AND REPAIR IN SKELETAL DEFECT - Chairs: Yunyu Hu, Gang Li**

- Alexandre Valentin-Opran** - "Recombinant human bone morphogenetic protein-2 (rhBMP-2) in open tibial fractures"  
**Stephen Harris** - "Bone morphogenetic protein induced differentiation of osteoblasts to osteocytes: Gene expression profiling and role of DLx5 in early osteoblast differentiation of DMP1 and MEPE in osteocyte biology"  
**Xu Cao** - "Novel mechanisms in the BMP signaling pathway: A potential bone anabolic drug target"

**THERAPIES AND REPAIR IN SKELETAL DEFECT (CONT.) - Chairs: Guangjian Zhang, Ji Li**

- Di Chen** - "The role of E3 Ubiquitin Ligase Smurf1 in BMP signaling and bone formation"  
**Yuqing Zhang** - "High prevalence of knee, but not hip or hand osteoarthritis in Beijing elders"  
**Lianxiang Bi** - "Morphology of the marrow sac in human and different laboratory animals, an electron microscopic study"  
**Jade W.M. Chow** - "eNOS is required for mechanically-induced bone formation"  
**Lianping Xing** - "NF-kappa B is required for the effect of TNF alpha on osteoblast - mediated bone resorption, but not on its effect on osteoblast - mediated bone formation"  
**Hali Wang** - "Thrombin peptide (TP508) enhances bone formation during rapid leg - lengthening in the rabbit and is chemotactic for human osteoblastic cells"  
**Shijing Qui** - "Decreased osteocyte density is relevant to fragility fracture independent of bone mass"

**TUESDAY, OCTOBER 14, 2003**

- VIII. **HOT TOPICS - Chairs: Dinghuo Yang, Agnes Vignery**

- Cedo Bagi** - "Mechanisms of cancer metastases to bone - challenges and opportunities"  
**Gongyi Huang** - "The principles of surgical treatment of osteoporotic fractures"  
**Susan Chi Xu** - "Scleraxis prevents terminal differentiation of chondrocytes by controlling the bone morphogenetic protein-2 gene expression"  
**Jian Feng** (given by Lynda Bonewald) - "Deletion of Dmp1 leads to chondrodysplasia, osteoarthritis, rickets and delaying of bone repairing"

**HOT TOPICS (CONT.) - Chairs: Shangli Liu, Xu Cao**

**ORAL PRESENTATIONS FROM ABSTRACTS**

**Jake Chen** - "An *in vivo* model to study osteogenic gene regulation: Targeting an Avian retroviral receptor (TVA) to bone with the bone sialoprotein (BSP) promoter"

**Xunwu Meng** - "Clinical manifestations of primary hyperparathyroidism (with analysis of 199 cases)"

**Yixian Qin** - "Anabolic fluid flow and its role in bone formation and inhibition of bone loss"

**Zhongliang Deng** - "Severe osteoporotic vertebral compression fractures treated with percutaneous vertebroplasty"

**Lei Wei** - "P38 mitogen-activated protein kinase regulates cell lineages between intramembranous and endochondral ossification"

**CLOSING CEREMONY - Chair: Jianli Liu**

**Speaker: Darren Ji**

It was the desire of the Editors to publish a proceeding of the conference in a special issue of JMNI. Unfortunately, this was not possible because of the cost. All is not lost, we are able, with the cooperation of some of the speakers, to publish 5 perspective papers (Frost, Recker, Deng, Bonewald, and Schönau et al.) from the conference.

Please note many International Society of Musculoskeletal and Neuronal Interactions members were heavily involved in the conference as speakers as well as organizers. They include: Claude Arnaud, Sulin Cheng, Hong-Wen Deng, Harold Frost, David Ke, Robert Recker, Martin Runge, and Eckhard Schönau. A special thanks to them. Please note 4 of these individuals are contributors to this issue.

This conference format was unique. In order to improve communications with the Chinese speaking audience, even though the talks are given in English, and the slides presented were in English and Chinese, the International Chinese Hard Tissue Society recruited members to serve as interpreters to insure accurate interpretation of all talks for the Chinese attendees. In addition, the organizer compiled a volume as well as a computer disk on abstracts and slides of the conference that was given to each participant. This volume contains abstracts and slides in English and Chinese.

For those interested in obtaining this volume on a computer disk, please contact me. Currently, I am seeking permission to circulate it at minimal cost.

**Webster S.S. Jee, Ph.D.**  
Co-President of International Conference on  
Osteoporosis and Bone Research  
Co-Editor-in-Chief, JMNI