

2nd Day October 15 Room 1

8 : 50~10 : 40 Panel discussion 4

Basic research for pharmacological therapy of neurogenic pain Moderators S. Konno, T. Ushida

- 2-1-P4-1 Plastic changes of nociceptive transmission in the spinal cord and neuropathic pain
*T. Nakatsuka*, Pain Research Center, Kansai Univ. of Health Sciences...S1202
- 2-1-P4-2 Mechanism of chronic radicular pain
*T. Yamashita, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1202
- 2-1-P4-3 Potential agents for pain-related behavior after application of nucleus pulposus
*M. Sekiguchi, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1203
- 2-1-P4-4 Proopiomelanocortin gene, precursor of endogenous endorphin, suppresses adjuvant induced
 /neuropathic pain in rats
*M. Yamashita, et al.*, Dept. of Orthop. Surg., Social Insurance Funabashi Central Hosp...S1203
- 2-1-P4-5 Spinal microglial cells: A new target for developing pain-killers?
*M. Tsuda, et al.*, Dept. Mol. Syst. Pharmacol., Grad. Sch. Pharm. Sci., Kyushu Univ...S1204

10 : 50~11 : 50 Invited lecture 3

Moderator K. Nakamura

- 2-1-IL3 The role of cytokines in the degenerative spine: Current concepts and future perspectives
*B. Rydevik*, Dept. of Orthop., Univ. of Gothenburg,
 Sahlgrenska Univ. Hosp., Gothenburg, Sweden...S1205

13 : 35~14 : 35 Special lecture

Moderator J. Mochida

- 2-1-SL Tasks for the Japanese society and demanded leadership.....*K. Kitashiro*, IBM Japan, Ltd./
 KEIZAI DOYUKAI (Japan Association of Corporate Executives)...S1206

14 : 45~16 : 15 Symposium 5

**Efficient planning suggestions for musculoskeletal basic research from government,
 industry and academic stand point**

Moderators A. Minami, K. Shinomiya

- 2-1-S5-1 The insight to basic research in the musculoskeletal system from a view of academic position
*N. Ishiguro*, Dept. of Orthop. Surg., Nagoya Univ...S1207

- 2-1-S5-2 From the standpoint of academia: Lessons from the development of a new artificial hip joint
*Y. Takatori*, Div. of Science for Joint Reconstruction,
 Graduate School of Medicine, The Univ. of Tokyo...S1207
- 2-1-S5-3 Towards realization of open innovation model for joint creation
*M. Go*, TSUNAMI Network Partners Corporation...S1208
- 2-1-S5-4 How to translate regenerative medicine for patients
*A. Matsuyama*, Institute of Biomedical Research and Innovation,
 Foundation for Biomedical Research and Innovation...S1208

2nd Day October 15 Room 2

8 : 00~9 : 00 Morning seminar Moderator H. Nakamura

- 2-2-MS How to treat the lumbar canal stenosis combined with PAD
*Y. Matsuyama*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine...S1209

9 : 25~10 : 25 Instructional lecture 9 Moderator N. Tsumaki

- 2-2-EL9 Skeletal development: Lessons from the mouse
*D. Chan*, Dept. of Biochemistry, The Univ. of Hong Kong, Hong Kong, China...S1210

**10 : 35~12 : 05 Panel discussion 5
 Application of undifferentiated multi-potent cells for tissue repair
 Moderators I. Sekiya, A. Myoui**

- 2-2-P5-1 Induction of mesenchymal stem (progenitor) cells from mouse and human iPS cells
*T. Teramura, et al.*, Inst. of Adv., Clin. Med., Kinki Univ...S1211
- 2-2-P5-2 Directed induction of chondrocytic cells from dermal fibroblast culture by defined factors
*K. Hiramatsu, et al.*, Dept. of Bone and Cartilage Biology, Osaka Univ.
 Graduate School of Medicine...S1211
- 2-2-P5-3 Comparison of human iPSCs generated with cells derived from a single donor but from dif-
 ferent tissue origin.....*A. Nasu, et al.*, Inst. Frontier Med. Sci., Kyoto Univ...S1212
- 2-2-P5-4 Direct isolation method of human mesenchymal stem cells by using flowcytometry
*Y. Matsuzaki*, Center of Integrated Medical Research, Keio Univ...S1212

12 : 20~13 : 20 Luncheon seminar 7 Moderator T. Kubo

- 2-2-LS7 Framework for clinical research
*H. Kobayashi*, Dept. of Clinical Pharmacology, Tokai Univ...S1213

14 : 45~15 : 45 Instructional lecture 10 Moderator T. Ozaki

- 2-2-EL10 Regenerative medicine based on muscle stem cells: Potential for tissue regeneration and re-
 pair.....*J. Huard*, Dept. of Orthop. Surg., Univ. of Pittsburgh, Pittsburgh, PA, USA...S1214

**15 : 55~17 : 25 Symposium 6
 Update on translational basic research-3: Tendon, ligament and muscle
 Moderators N. Yasui, Y. Uchiyama**

- 2-2-S6-1 Reconstruction of motor system using skeletal muscle-derived multipotent stem cells
*T. Tamaki*, Dept. of Regenerative Medicine, Tokai Univ...S1215
- 2-2-S6-2 Cell therapy of inherited muscular disorders
*Y. Suzuki, et al.*, Dept. Molecular Therapy, National Institute of Neuroscience, NCNP...S1215

- 2-2-S6-3 Regeneration of rotator cuff tendon-to-bone junction by acellular matrix bioscaffold combined with a local controlled release of FGF-2
*J. Ide, et al.*, Orthop. and Neuro-Musculoskeletal Surg.,
 Faculty of Medical and Pharmaceutical Sciences, Kumamoto Univ.··S1216
- 2-2-S6-4 Tissue engineering of ligament using chitosan and hyaluronan hybrid polymer fiber scaffold
*T. Majima, et al.*, Joint Replacement and Tissue Engineering,
 Hokkaido Univ., School of Medicine··S1216

2nd Day October 15 Room 3

8 : 15~9 : 15 Free papers 22
Repair • regeneration • reconstruction of tendon • ligament-1 **Moderator H. Oda**

- 2-3-1 The effect of calcium phosphate hybridized tendon graft to prevent bone tunnel enlargement for ACL reconstruction on goats after 6 months
*H. Mutsuzaki, et al.*, Dept. of Orthop. Surg., Ibaraki Prefectural Univ. of Health Sciences··S1217
- 2-3-2 Effect of deletion macrophage migration inhibitory factor gene in medial colateral ligament healing of knee joint.....*S. Kitayama, et al.*, Dept. of Sports Medicine, Joint Surg.,
 Hokkaido Univ., Graduate School of Medicine··S1217
- 2-3-3 Effect of cell proliferation by irradiation using xenon flash light in fibroblasts derived rat achilles tendon *in vitro*.....*H. Satonaka, et al.*, Dept. of Musculoskeletal Surg.,
 Mie Univ. Graduate School of Medicine··S1218
- 2-3-4 Effects of platelet-rich plasma on Achilles tendon healing in rabbit
*M. Takamura, et al.*, Dept. of Orthop. Surg., Osaka Medical College··S1218
- 2-3-5 Investigation of cell sheets derived from anterior cruciate ligaments and synovial tissues for tissue engineering.....*G. Mitani, et al.*, Dept. of Orthop. Surg., Tokai Univ.··S1219
- 2-3-6 Relationship between myofibroblast and osteopontin in Dupuytren's contracture
*M. Tsujii, et al.*, Dept. of Musculoskeletal Surg., Mie Univ. Graduate School of Medicine··S1219

9 : 25~10 : 25 Free papers 23
Repair • regeneration • reconstruction of tendon • ligament-2 **Moderator K. Tamai**

- 2-3-7 A initial mechanical comparison of the modified lasso-loop stitch and stitches commonly used for arthroscopic rotator cuff repair.....*R. Kii, et al.*, Dept. of Orthop. Surg., Shimane Univ.··S1220
- 2-3-8 Biomechanics on triple bundle of anterior cruciate ligament
*Y. Kato, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1220
- 2-3-9 Suture-button fixation of distal tibiofibular syndesmosis injuries
*A. Teramoto, et al.*, Dept. of Orthop. Surg., Kushiro Red Cross Hosp.··S1221
- 2-3-10 An anatomical study of the inferior glenohumeral ligament attachment to the glenoid
*Y. Itoigawa, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine··S1221
- 2-3-11 Anatomy of the extensor pollicis brevis associated with an extension mechanism of the thumb metacarpophalangeal joint
*S. Shigematsu, et al.*, Dept. of Orthop. Surg., St. Marianna Univ. School of Medicine··S1222
- 2-3-12 Histologic degeneration of the human supraspinatus tendon insertion and its material property: A measurement using scanning acoustic microscope
*H. Sano, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine··S1222

10 : 35~11 : 35 Free papers 24 Repair • regeneration • reconstruction of muscle Moderator T. Tamaki

- 2-3-13 Intramuscular transplantation of muscle derived stem cells accelerates skeletal muscle healing after contusion injury.....*S. Ota, et al.*, Dept. of Orthop. Surg., Nagoya Univ.··S1223
- 2-3-14 Oxidative stress in skeletal muscle causes severe disturbance of exercise activity without muscle atrophy.....*H. Nojiri, et al.*, Dept. of Orthop., Juntendo Univ.··S1223
- 2-3-15 1,25-dihydroxy-vitamin D₃ regulates myotube formation through vitamin D receptor mediated signal.....*M. Tanaka, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine··S1224
- 2-3-16 The effect on muscle in the carbon dioxide percutaneous administration *in vivo**K. Oe, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1224
- 2-3-17 Oxygen tension regulates myogenic differentiation and fusion*Y. Kawato, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.··S1225
- 2-3-18 Effects of edaravone for ischemia reperfusion injury on the skeletal muscle*K. Hori, et al.*, Dept. of Musculoskeletal Surg., Mie Univ. Graduate School of Medicine··S1225

12 : 20~13 : 20 Luncheon seminar 8 Moderator Y. Oka

- 2-3-LS8 Diagnosis and treatment for CRPS: Diagnostic points for residual disorders*Y. Horiuchi*, Div. of Orthop. Surg., Kawasaki Municipal Kawasaki Hosp.··S1226

14 : 45~15 : 45 Free papers 25 Cartilage repair and regeneration-2 Moderator H. Tsumura

- 2-3-19 Articular cartilage repair with magnetically labeled mesenchymal stem cells and external magnetic device using porcine model.....*G. Kamei, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical Sciences, Hiroshima Univ.··S1227
- 2-3-20 Low invasive cartilage regeneration with synovial mesenchymal stem cells in swine model*T. Nakamura, et al.*, Section of Orthop. Surg., Graduate School, Tokyo Medical and Dental Univ.··S1227
- 2-3-21 Development of the adhesive strength of a biodegradable hydrogel glue (LYDEX) for joint cartilage.....*H. Kazusa, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical Sciences, Hiroshima Univ.··S1228
- 2-3-22 Skeletal maturity does not affect the healing response of articular cartilage using scaffold-free tissue-engineered construct derived from allogenic synovial mesenchymal stem cells*K. Shimomura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ.··S1228
- 2-3-23 Spontaneous hyaline cartilage regeneration *in vivo* within a large osteochondral defect by implanting a novel double-network hydrogel*M. Yokota, et al.*, Dept. of Sports Medicine and Joint Reconstruction Surg., Hokkaido Univ. Graduate School of Medicine··S1229
- 2-3-24 Evaluation of autologous bone marrow-derived mesenchymal cells transplantation in cynomolgus monkeys.....*S. Araki, et al.*, Dept. of Orthop. Surg., Shiga Univ. of Medical Science··S1229

15 : 50~16 : 50 Free papers 26 Cartilage degeneration-1 Moderator K. Fukuda

- 2-3-25 ADAMTS-5 is a mechano-sensitive aggrecanase regulated by runt-related transcription factor 2 in human chondrocyte-like cells*T. Tetsunaga, et al.*, Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School··S1230
- 2-3-26 Role of cathepsin K in IL-1-induced cartilage matrix degradation*T. Kojima, et al.*, Dept. of Orthop. Surg., Nagoya Univ.··S1230

- 2-3-27 Alterations in high-mannose type N-glycans during OA progression and the correlation between N-glycogene (GnT-I) and the expression of MMP-13 and ADAMTS-5 in chondrocytes
A. Urita, *et al.*, Dept. of Orthop. Surg., Hokkaido Univ., Graduate School of Medicine...S1231
- 2-3-28 Endoplasmic reticulum stress is engaged in cartilage degeneration via chondrocyte apoptosis
K. Takada, *et al.*, Orthop. and Neuro-Musculoskeletal Surg., Faculty of Medical and Pharmaceutical Sciences, Kumamoto Univ...S1231
- 2-3-29 Relationship of endoplasmic reticulum stress and apoptosis during cartilage degeneration in rat
W. Togami, *et al.*, Orthop. and Neuro-Musculoskeletal Surg., Faculty of Medical and Pharmaceutical Sciences, Kumamoto Univ...S1232
- 2-3-30 Intracellular accumulation of advanced glycation end products in chondrocytes induces apoptosis through induction of endoplasmic reticulum stress response
S. Yamabe, *et al.*, Dept. of Orthopaedic and Neuro-Musculoskeletal Surg., Faculty of Medical and Pharmaceutical Sciences, Kumamoto Univ...S1232

16 : 55~17 : 45 Free papers 27 Cartilage degeneration-2 Moderator R. Teshima

- 2-3-31 Regional decline in TIMP expression may be involved in cartilage degeneration in osteoarthritis
T. Yamaguchi, *et al.*, Clinical Research Center, National Hosp. Organization Sagamihara Hosp...S1233
- 2-3-32 Autophagy modulates osteoarthritis-related gene expressions in human chondrocytes
K. Takayama, *et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1233
- 2-3-33 Involvement of p38 MAP kinase phosphorylation in chondrocyte apoptosis induced by heat stress
K. Takebe, *et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1234
- 2-3-34 Oxidized low density lipoprotein induces hypertrophic chondrocyte-like phenotypes in bovine articular chondrocytes
H. Kishimoto, *et al.*, Dept. of Orthop. Surg., Kinki Univ...S1234
- 2-3-35 Expression of osterix inhibits bone morphogenetic protein-induced chondrogenic differentiation of mesenchymal progenitor cells
H. Tominaga, *et al.*, Dept. of Orthop. Surg., Graduate School of Medical and Dental Sciences, Kagoshima Univ...S1235

2nd Day October 15 Room 4

8 : 15~8 : 55 Free papers 28 Stem cell Moderators S. Wakitani

- 2-4-1 Transplantation of human embryonic stem cell derived-neural stem/progenitor cells for spinal cord injury in adult NOD/Scid mice
Y. Takahashi, *et al.*, Dept. of Orthop. Surg., Keio Univ...S1236
- 2-4-2 Alterations in N-glycan structure and associated genes of enzymes on the N-glycan biosynthesis during the course of neuronal differentiation from mouse ES and iPS cells
M. Terashima, *et al.*, Dept. of Orthop. Surg., Hokkaido Univ., Graduate School of Medicine...S1236
- 2-4-3 Tissue engineering with iPS Cell: Three dimensional iPS induced cell cultured nerve conduit
K. Takamatsu, *et al.*, Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine...S1237
- 2-4-4 Comparison between rat mesenchymal stem cells from adipose tissues and bone marrow for improvement in the viability of skin flap
Y. Hagiwara, *et al.*, Dept. of Orthop. Surg., Nippon Medical School, Graduate School of Medicine...S1237

**10 : 35~11 : 35 Workshop
 Stories told from expert researchers in performing basic research Moderator T. Kimura**

- 2-4-W-1 Molecular genetics: How to approach the goal
T. Naruse, Dept. of Molecular Pathogenesis, Medical Research Institute, Tokyo Medical and Dental Univ...S1238

- 2-4-W-2 Study for the musculoskeletal cells using colony-forming assay and flow-cytometry analysis
Y. Nakamura, Cell Processing Center, Tokai Univ. Hosp.··S1238
- 2-4-W-3 History and topic of hyaluronan······T. Kikuchi, NHO Murayama Medical Center··S1239

14 : 45~15 : 25 Free papers 29 Bone tumor-1 Moderator K. Mochizuki

- 2-4-5 Innovative m-CRA (conditionally replicating adenovirus regulated with multiple factors) medicine for efficiently and specifically (safely) treating osteosarcoma
Y. Horikawa, et al., Dept. of Gene Therapy and Regenerative Medicine, Kagoshima Univ.··S1240
- 2-4-6 JNJ-7706621, a dual inhibitor of cyclin-dependent kinases and aurora kinases, suppresses cell growth, the spindle checkpoint, chromosome segregation, and cytokinesis
A. Matsushashi, et al., Dept. of Orthop. Surg., Gifu Univ. Graduate School of Medicine··S1240
- 2-4-7 Over-expression of GLI2 in osteosarcoma and GLI2 as a new therapeutic target for human osteosarcoma······H. Nagao, et al., Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1241
- 2-4-8 Knock down of overexpressed smoothed prevent osteosarcoma growth and invasion
M. Hirotsu, et al., Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1241

15 : 35~16 : 15 Free papers 30 Bone tumor-2 Moderator S. Osaka

- 2-4-9 A survey of therapeutic target of osteosarcoma by microRNA expression profile
E. Kobayashi, et al., Dept. of Chemotherapy, National Cancer Center Research Institute··S1242
- 2-4-10 Drug resistance mechanism against anti-tumor effect by bisphosphonate in osteosarcoma cell line······T. Morii, et al., Dept. of Orthop. Surg., Kyorin Univ.··S1242
- 2-4-11 Expression of CD155 in bone and soft tissue tumors
R. Niimi, et al., Dept. of Musculoskeletal Surg., Mie Univ. Graduate School of Medicine··S1243
- 2-4-12 Acridine orange inhibits pulmonary metastasis on murine osteosarcoma
H. Satonaka, et al., Dept. of Musculoskeletal Surg., Mie Univ.
 Graduate School of Medicine··S1243

16 : 25~17 : 15 Free papers 31 Soft tissue tumor • metastasis Moderator Y. Tokuhashi

- 2-4-13 Targeting Src family kinases suppresses tumor growth, invasion, and angiogenesis in human synovial sarcoma *in vivo*······R. Arai, et al., Dept. of Orthop. Surg.,
 Hokkaido Univ., Graduate School of Medicine··S1244
- 2-4-14 The differential diagnosis between well-differentiated liposarcoma and lipoma using molecular biological techniques··A. Yoshida, et al., Science of Functional Recovery and Reconstruction,
 Okayama Univ. Graduate School··S1244
- 2-4-15 Cancer metastasis cured by specific targeting of a modified salmonella typhymurium
K. Hayashi, et al., Dept. of Restorative Medicine of Neuro-Musculoskeletal System,
 Graduate School of Medical Sciences, Kanazawa Univ.··S1245
- 2-4-16 The pathway of metastatic vertebral tumors extending to the adjacent vertebral body: A histologic study
T. Sasagawa, et al., Dept. of Restorative Medicine of Neuro-Musculoskeletal System,
 Graduate School of Medical Sciences, Kanazawa Univ.··S1245
- 2-4-17 Hyperthermic chemotherapy using a novel magnetic material
H. Fukumura, et al., Dept. of Orthop. Surg., Yokohama City Univ.··S1246

2nd Day October 15 Room 5

8 : 15~9 : 05 Free papers 32 Intervertebral disc degeneration-1 Moderator M. Doita

- 2-5-1 CILP promotes lumbar disc degeneration
S. Seki, et al., Dept. of Orthop. Surg., Univ. of Toyama...S1247
- 2-5-2 Heme oxygenase-1 modulates the degeneration of intervertebral disc in Bach 1 deficient mice
R. Ohta, et al., Dept. of Orthop. Surg.,
 Graduate School of Biomedical Sciences, Hiroshima Univ...S1247
- 2-5-3 TGF β /BMP signal stimulate expression of β 1,3 glucuronosyl transferase-I (GlcAT-I) in nucleus
 pulposus cells through AP1and TonEBP
A. Hiyama, et al., Dept. of Orthop. Surg., Tokai Univ...S1248
- 2-5-4 Disc injury in rats produces persistent increase in neuropeptides in DRG and spinal cord glia but
 only transient increases in inflammatory mediators.....M. Miyagi, et al., Dept. of Orthop. Surg.,
 Graduate School of Medicine, Chiba Univ...S1248
- 2-5-5 The study of gene transfection with pro-opiomelanocortin, precursor of endogeneous endorphin,
 using radial shock waves in a rat disk injury model.....R. Sakai, et al., Chiba Univ...S1249

**9 : 25~10 : 15 Free papers 33
 Retardation of intervertebral disc degeneration • cell metabolism Moderator T. Hasegawa**

- 2-5-6 Effect of synovial mesenchymal stem cell transplantation to the degenerative intervertebral disc
T. Miyamoto, et al., Dept. of Orthop. Surg., Tokyo Medical and Dental Univ...S1250
- 2-5-7 Application of platelet-rich plasma serum for regenerative therapy of intervertebral disc degen-
 eration.....S. Kohata, et al., Dept. of Musculoskeletal Surg., Mie Univ.
 Graduate School of Medicine...S1250
- 2-5-8 Proteoglycan metabolism modulation using small chemical compounds as treatment for disc de-
 generation.....V.YL. Leung, et al., Dept. of Orthop. and Traumatology,
 The Univ. of Hong Kong, Hong Kong, China...S1251
- 2-5-9 Acceleration of growth and control of extracellular matrix synthesis by TGF beta stimulating in
 nucleus pulposus cells of chondrodystrophoid canines mediate cMyc
M. Tanaka, et al., Dept. of Orthop. Surg., Tokai Univ...S1251
- 2-5-10 The effect of exogenous Sirt1 for the proliferation activity of human intervertebral disc
Z. Zhang, et al., Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1252

10 : 35~11 : 35 Instructional lecture 11 Moderator H. Yamada

- 2-5-EL11 Notch signalling in skeletal development and disease
C.W. Archer, Cardiff Univ., Cardiff, UK...S1253

12 : 20~13 : 20 Luncheon seminar 9 Moderator T. Suguro

- 2-5-LS9 Osteoarthritis: Update of diagnosis, treatment, and approaches to molecular mechanism
H. Kawaguchi, Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo...S1254

14 : 45~15 : 45 Instructional lecture 12 Moderator H. Haro

- 2-5-EL12 Tissue engineering from the ground up: Building an annulus fibrosus that has mechanical
 function at micro and macro scales.....D.M. Elliott, et al., Dept. of Orthop. Surg.,
 Univ. of Pennsylvania, Philadelphia, PA, USA...S1255

15 : 55~16 : 55 Free papers 34 Electrophysiology**Moderator T. Tani**

- 2-5-11 Evoked activity in the motor network during suprathreshold transcranial magnetic stimulation to the primary motor cortex.....*H. Shitara, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Gunma Univ.··S1256
- 2-5-12 Associated synaptic plasticity in the central amygdala neurons in rats with chronic pain*R. Ikeda, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine··S1256
- 2-5-13 Effects of CGRP on excitatory synaptic transmission in the mouse nociceptive amygdale*Y. Okutsu, et al.*, Dept. of Orthop. Surg., The Jikei Univ. School of Medicine··S1257
- 2-5-14 *In vivo* patch-clamp analysis of dopaminergic inhibition against noxious and innocuous stimuli to skin on substantia gelatinosa neurons in the rat spinal cord*W. Taniguchi, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ.··S1257
- 2-5-15 Effects of sympathectomy on lumbar radicular pain model: Electrophysiological study by patch-clamp recording.....*T. Iwase, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ.··S1258
- 2-5-16 Effects of peripheral nerve stimulation for patients with lumbar spinal stenosis*M. Kumon, et al.*, Dept. of Orthop. Surg., Kochi Medical School··S1258

17 : 05~17 : 45 Free papers 35 Intervertebral disc degeneration-2**Moderator M. Yoshida**

- 2-5-17 Age related change of MCP-1 and MMP-3 expression in murine intervertebral disc*K. Fujita, et al.*, Interdisciplinary Graduate School of Medicine and Engineering, Univ. of Yamanashi··S1259
- 2-5-18 Apoptosis induction through the mitochondrial pathway in a rat tail compression loading-induced disc degeneration model*T. Yurube, et al.*, Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine··S1259
- 2-5-19 Positive or negative regulation of apoptosis in intervertebral disks of passive smoking rats*M. Nakahashi, et al.*, Dept. of Orthop. Surg., Nihon Univ.··S1260
- 2-5-20 The examination of myofascial low back pain referred to spine*T. Uminura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1260

2nd Day October 15 Room 6**8 : 15~9 : 15 Free papers 36 Osteoarthritis-1****Moderator H. Matsumoto**

- 2-6-1 The preventive effects of BMP-7 and biodegradable gelatin hydrogel on experimental osteoarthritis in the rabbit knee.....*K. Honjo, et al.*, Dept. of Orthop., Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine··S1261
- 2-6-2 Therapeutic effect of intra-articular injections of bone morphogenetic protein-7 for an animal osteoarthritis model.....*M. Hayashi, et al.*, Dept. of Orthop. Surg., Tokyo Medical & Dental Univ.··S1261
- 2-6-3 The role of cathepsin K in pathological process of knee osteoarthritis: Analysis of cathepsin K knockdown mice.....*E. Kozawa, et al.*, Dept. of Orthop. Surg., Nagoya Univ.··S1262
- 2-6-4 Transcriptional control of osteoarthritis development by HIF-2A*A. Fukai, et al.*, Orthop. Surg., Graduate School of Medicine, The Univ. of Tokyo··S1262
- 2-6-5 Evaluation of the usefulness of biomarkers in knee osteoarthritis in mass cohort study of Japan: The second report.....*M. Morita, et al.*, Dept. of Orthop. Surg., Fujita Health Univ.··S1263
- 2-6-6 Association of knee pain and low back pain with knee osteoarthritis, lumbar spondylosis and activities of daily living.....*T. Akune, et al.*, 22nd Century Medical and Research Center, Graduate School of Medicine, The Univ. of Tokyo··S1263

9 : 25~10 : 15 Free papers 37 Osteoarthritis-2 Moderator N. Nakamura

- 2-6-7 Analgesic effects of intra-articular administrations of ultra-purified alginate on arthritis in rats
 *Y. Tsukuda, et al.*, Dept. of Orthop. Surg., Hokkaido Univ. Graduate School of Medicine...S1264
- 2-6-8 The synergistic combination of Neurotropin® and intra-articular injectable sodium hyaluronate
 on the pain of mono-iodoacetate-induced osteoarthritis rats
*M. Naiki, et al.*, Dept. of Development Research, Inst. of Bio-Active Sci.,
 Nippon Zoki Pharmaceutical Co., Ltd...S1264
- 2-6-9 Pain-related sensory innervation of rat monoiodoacetate-induced knee osteoarthritis models
*S. Orita, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1265
- 2-6-10 ASIC3 expression in dorsal root ganglia in a rat model of osteoarthritis
*M. Izumi, et al.*, Dept. of Orthop. Surg., Kochi Medical School...S1265
- 2-6-11 Celecoxib suppress the release of hyaluronic acid in end stage osteoarthritic cartilage
*D. Takahashi, et al.*, Joint Replacement and Tissue Engineering,
 Hokkaido Univ., Graduate School of Medicine...S1266

12 : 20~13 : 20 Luncheon seminar 10 Moderator H. Ito

- 2-6-LS10 Fracture risk and treatment of osteoporosis: Possibility of fracture prevention in PTH treat-
 ment.....*K. Yoh*, Dept. of Orthop. Surg., Hyogo College of Medicine...S1267

14 : 45~15 : 45 Free papers 38 Pathogenesis of cauda equina and nerve root Moderator M. Kawakami

- 2-6-12 Evaluation of the lumbar nerve root of patients with lumbar spinal canal stenosis using diffu-
 sion MRI.....*Y. Eguchi, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Chiba Univ...S1268
- 2-6-13 Strain of lumbar nerve roots on straight leg raising test and bragard test
*H. Chiba, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1268
- 2-6-14 Immediate anti-tumor necrosis factor-alpha (etanercept) therapy enhances axonal regeneration
 after sciatic nerve crush.....*K. Kato, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1269
- 2-6-15 Anti-HMGB1 neutralizing antibody improves pain-related behavior induced by application of
 autologous nucleus pulposus on nerve root in rats
*K. Otoshi, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1269
- 2-6-16 Changes in expression of sodiumchannels in the dorsal root ganglion neurons following disc
 puncture: An experimental study in rats
*K. Watanabe, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ...S1270
- 2-6-17 Changes in synaptic transmission of substantia gelatinosa neurons in a rat model of lumbar
 radicular pain revealed by *in vivo* patch-clamp recording
*Y. Terashima, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1270

15 : 55~16 : 55 Free papers 39 Rheumatoid arthritis • arthritis Moderator S. Momohara

- 2-6-18 Inhibitory effect of microRNA-146 on joint destruction in rheumatoid arthritis
*T. Nakasa, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical Sciences,
 Hiroshima Univ...S1271
- 2-6-19 Plasma microRNAs as a potential biomarkers of rheumatoid arthritis and osteoarthritis
*K. Murata, et al.*, Dept. of Orthop. and Musculoskeletal Surg.,
 Graduate School of Medicine, Kyoto Univ...S1271
- 2-6-20 Acquired leptin resistance reduces inflammation induced by anti-collagen type II antibody
 (CAIA) in diet-induced obese mice.....*Y. Sugioka, et al.*, Dept. of Orthop. Surg.,
 Osaka City Univ. Graduate School of Medicine...S1272

- 2-6-21 Synoviocyte-derived angiopoietin-like protein 2 contributes to synovial chronic inflammation in rheumatoid arthritis.....*T. Okada, et al.*, Orthop. and Neuro-Musculoskeletal Surg., Faculty of Medical and Pharmaceutical Sciences, Kumamoto Univ...S1272
- 2-6-22 Tumor necrosis factor- α (TNF- α) -antagonist inhibits matrix mettaloproteinase-3 (MMP-3) production in human articular chondrocytes *in vitro**S. Abe, et al.*, Dept. of Orthop. Surg., Asahikawa Medical College...S1273
- 2-6-23 The assessment of biological treatment in patients with rheumatoid arthritis using FDG-PET/CT.....*K. Okamura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Gunma Univ...S1273

2nd Day October 15 Room 7

8 : 15~9 : 15 Free papers 40 Osteogenesis • calcification • ectopic ossification

Moderator Y. Kato

- 2-7-1 Accelerated distraction osteogenesis in bone transport with an injectable composite material retaining BMP-2 to enhance repair of diaphyseal bone defect*Y. Eguchi, et al.*, Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine...S1274
- 2-7-2 Engineering, cloning, and functional characterization of recombinant LIM mineralization protein-1 containing an N-terminal HIV-derived membrane transduction domain*M. Okada, et al.*, Dept. of Orthop. Surg., Wakayama Medical Univ...S1274
- 2-7-3 Schnurri2 deficiency in mice result in periarticular calcification associated with upregulation of renal 25-hydroxyvitamin D 1-alpha hydroxylase and serum calcium-phosphate product*M. Nagao, et al.*, Dept. of Molecular Pharmacology, Tokyo Medical and Dental Univ...S1275
- 2-7-4 Relation between PGE2/EP4 pathway and BMP2 in pathogenic mechanism of OPLL*T. Kosaka, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ...S1275
- 2-7-5 Effects of circumferential periosteal removal of femoral shaft of developing rats on endochondral and intramembranous ossification*S. Takata, et al.*, Dept. of Orthop. Surg., Tokushima Univ...S1276
- 2-7-6 Local bone regeneration in autobone grafting*K. Yano, et al.*, Dept. of Orthop. Surg., Osaka City Univ. Graduate School of Medicine...S1276

10 : 35~12 : 05 Symposium 7

Update on translational basic research-4: New insights on biomaterials

Moderators T. Nakamura, K. Sugamoto

- 2-7-S7-1 Recent trend of tissue engineering: "Biofabrication"*M. Nakamura, et al.*, Graduate School of Science and Engineering for Research, Toyama Univ...S1277
- 2-7-S7-2 Bone regeneration enhanced by biomimetic synthetic bone mineral precursor (OCP)*O. Suzuki*, Div. of Craniofacial Function Eng., Tohoku Univ. Grad. Sch. Dent...S1277
- 2-7-S7-3 Enhanced tissue regeneration by the electrically polarized ceramics powder*S. Itoh, et al.*, Affiliated Facility for Clinical and Fieldwork Practices, International Univ. of Health and Welfare...S1278
- 2-7-S7-4 Present state and issues on artificial disc research in collaboration with industry*Y. Kotani, et al.*, Dept. of Orthop. Surg., Hokkaido Univ., Graduate School of Medicine...S1278

12 : 20~13 : 20 Luncheon seminar 11

Moderator N. Ishiguro

- 2-7-LS11 What is required new knowledge in the treatment for rheumatoid arthritis? - What remains to be done by orthopaedic surgeon in Japan? -*S. Momohara*, Institute of Rheumatology, Tokyo Women's Medical Univ...S1279

- 2-8-P6-2 The mechanism of accelerated fracture healing repair for low intensity pulsed ultrasound
*K. Naruse, et al.*, Dept. of Orthop. Surg., Kitasato Univ.··S1288
- 2-8-P6-3 The use of mechanical stimuli to engineer and study articular cartilage and intervertebral
 disc.....*S. Grad, et al.*, AO Research Institute Davos··S1289

2nd Day October 15 Posters & Exhibits

9 : 25~10 : 00 Poster Spinal cord injury-1 Moderator M. Watanabe

- 2-Pa-1 Histological analysis of ER stress reaction of NG2 positive cell after spinal cord injury in rats
*D. Matsuyama, et al.*, Dept. of Orthop. Surg., Tokai Univ.··S1290
- 2-Pa-2 Rapamycin promotes autophagy and reduces neural tissue damage after spinal cord injury in mice
*A. Sekiguchi, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine··S1290
- 2-Pa-3 Neuroprotective effects of testosterone and GDNF after spinal cord hemisection injury in im-
 mature and adult rats.....*K. Ogata, et al.*, Dept. of Orthop. Surg., Nagoya City Univ.,
 Graduate School of Medical Science··S1291
- 2-Pa-4 p38 MAPK inhibitor increases the restructuring of neural circuit after the spinal cord injury in
 rat.....*K. Morizane, et al.*, Spine Center, Ehime Univ. Hosp.··S1291
- 2-Pa-5 *In vivo* demonstration of the combination therapy with collagen filaments and neurotrophic
 factors in the rats with spinal cord injury.....*H. Suzuki, et al.*, Dept. of Orthop. Surg.,
 Yamaguchi Univ. Graduate School of Medicine··S1292
- 2-Pa-6 Transplantation of autologous macrophage genetically modified to secrete BDNF for the ther-
 apy of spinal cord injury.....*T. Ogata, et al.*, Spine Center, Ehime Univ. Hosp.··S1292

10 : 00~10 : 30 Poster Operation • spine Moderator N. Kawahara

- 2-Pa-7 An anatomic study of the sacroiliac joint: The prevention of lumbosacral nerves in anterior ap-
 proach to the sacroiliac joint.....*K. Matsumoto, et al.*, Dept. of Orthop. Surg.,
 Fukushima Medical Univ.··S1293
- 2-Pa-8 Anatomy of vertebral foramen of cervical spine.....*M. Nishinome, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medicine, Gunma Univ.··S1293
- 2-Pa-9 Anatomical and histopathological findings of lumbosacral ligament in cases with extraforam-
 inal stenosis at the lumbosacral junction.....*H. Yamada, et al.*, Dept. of Orthop. Surg.,
 Wakayama Medical Univ.··S1294
- 2-Pa-10 Randomized controlled trial of using platelet-rich plasma (PRP) in lumbar posterolateral fu-
 sion.....*H. Kamoda, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1294
- 2-Pa-11 Venous hemodynamics of lower limb at prone position
*K. Kiyasu, et al.*, Dept. of Orthop. Surg., Kochi Medical School··S1295

9 : 25~10 : 10 Poster Spinal cord injury-2 Moderator K. Uchida

- 2-Pb-1 Therapeutic effect of intraspinal transplantation of mobilized peripheral blood stem cells by
 granulocyte colony-stimulating factor for spinal cord injury in mice
*H. Takahashi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1296
- 2-Pb-2 Transplantation of astrocytes derived from mouse induced pluripotent stem cell on an experi-
 mental spinal cord injury in rats
*K. Hayashi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1296
- 2-Pb-3 Protecting axons from degeneration by increasing neuronal NAD level in various disease mod-
 els.....*S. Kaneko, et al.*, Dept. of Orthop. Surg., Murayama Medical Center··S1297

- 2-Pb-4 Age-dependent plasticity after spinal cord injury
*H. Kumamaru, et al.*, Dept. of Research Superstar Program Stem Cell Unit
 Graduate School of Medical Sciences, Kyushu Univ.··S1297
- 2-Pb-5 The crucial role of Erk2 in CNS inflammation
*R. Okazaki, et al.*, Research Institute, National Rehabilitation Center··S1298
- 2-Pb-6 The trial of the severity evaluation for human spinal cord injury by blood biomarker
*K. Ishii, et al.*, Tokyo Metropolitan Bokutoh Hosp.··S1298
- 2-Pb-7 Responses of endoplasmic reticulum stress related proteins in glial cell line for cytotoxic factors
 by traumatic spinal cord injury······*K. Suyama, et al.*, Dept. of Orthop. Surg., Tokai Univ.··S1299

9 : 25~10 : 10	Poster Spinal cord pathology	Moderator H. Ozawa
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- 2-Pc-1 The effects of spinal cord distraction on spinal cord function and spinal cord blood flow in a
 dog model······*M. Kawaguchi, et al.*, Dept. of Orthop. Surg., Saiseikai Kanazawa Hosp.··S1300
- 2-Pc-2 Chronic mechanical spinal cord compression induces accumulation of poly-ubiquitin binding
 protein p62······*F. Tanabe, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Medical and Dental Sciences, Kagoshima Univ.··S1300
- 2-Pc-3 The variations of the spinal cord disorder from the intra-spinal stress distributions caused by
 the compressive mass to the spinal cord
*K. Ichihara*, NPO Japan Orthop. Biomechanics Institute··S1301
- 2-Pc-4 Bone morphogenetic protein receptor expression in the adult rat spine and dorsal root ganglion
*M. Miyagi, et al.*, Dept. of Orthop. Surg., Hamamatsu Univ. School of Medicine··S1301
- 2-Pc-5 Intervertebral disc/macrophages interaction induces mechanical hyperalgesia via inflammatory
 properties production······*T. Takada, et al.*, Dept. of Orthop. Surg.,
 Kobe Univ. Graduate School of Medicine··S1302
- 2-Pc-6 Diagnosis of spinal conduction block using spinal cord evoked magnetic fields after peripheral
 nerve stimulation······*K. Sakaki, et al.*, Dept. of Orthop. Surg.,
 Tokyo Medical and Dental Univ., Graduate School··S1302
- 2-Pc-7 Relationship between lumbar spinal stenosis and lifestyle-related disorders.
*K. Uesugi, et al.*, Dept. of Orthop. Surg., Fukushima Medical Univ.··S1303

9 : 25~9 : 55	Poster Osteoblast	Moderator T. Miyamoto
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- 2-Pd-1 Function of OASIS in bone fracture healing
*T. Funamoto, et al.*, Div. of Orthop. Surg., Univ. of Miyazaki··S1304
- 2-Pd-2 p70 S6 kinase limits tumor necrosis factor alpha-induced interleukin-6 synthesis in osteoblasts-
 like cells······*C. Minamitani, et al.*, Dept. of Orthop. Surg., Nagoya City Univ.,
 Graduate School of Medical Sciences··S1304
- 2-Pd-3 (-)-Epigallocatechin gallate attenuates the induction of HSP27 stimulated by sphingosine
 1-phosphate via suppression of phosphatidylinositol 3-kinase/Akt pathway in osteoblasts
*J. Mizutani, et al.*, Dept. of Orthop. Surg., Nagoya City Univ.,
 Graduate School of Medical Sciences··S1305
- 2-Pd-4 Activated protein C stimulates osteoblast proliferation
*K. Yoshida, et al.*, Dept. of Musculoskeletal Surg.,
 Mie Univ. Postgraduate School of Medicine··S1305
- 2-Pd-5 Analysis of signal transduction in murine osteoblast after alternating current electrical stimu-
 lation······*N. Yamada, et al.*, Dept. of Orthop., Graduate School of Medical Science,
 Kyoto Prefectural Univ. of Medicine··S1306

9 : 55~10 : 30 Poster Computer analysis**Moderator A. Seichi**

- 2-Pd-6 Three dimensional finite element analysis of the metaphyseal-loading anterolaterally-flared femoral stem for dysplastic hip osteoarthritis
*K. Negoro, et al.*, Dept. of Orthop. and Rehabilitation Medicine, The Univ. of Fukui...S1307
- 2-Pd-7 Torsional strength of the femur decreased with increasing the size of osteolytic tumors: A prediction of the pathological fracture using 3-dimensional finite element analysis
*D. Chiba, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1307
- 2-Pd-8 Evaluation of new developmental navigation system for total knee arthroplasty
*Y. Yokoyama, et al.*, Science of Functional Recovery and Reconstruction,
 Okayama Univ. Graduate School...S1308
- 2-Pd-9 Intra-operative guide pin holes and their relation to medial tibial plateau stress fracture following UKA.....*K.S.A. Yew, et al.*, Dept. of Orthop. Surg., Singapore General Hosp., Singapore...S1308
- 2-Pd-10 The mechanical effect of kyphotic deformity with prior vertebral fracture on adjacent vertebrae.....*Y. Okamoto, et al.*, Dept. of Restorative Medicine of Neuro-Musculoskeletal System,
 Graduate School of Medical Sciences, Kanazawa Univ...S1309
- 2-Pd-11 A biomechanical study on circumspinal decompression with dekyphosis stabilization for thoracic myelopathy due to ossification of the posterior longitudinal ligament
*T. Okayama, et al.*, Dept. of Restorative Medicine of Neuro-Musculoskeletal System,
 Graduate School of Medical Sciences, Kanazawa Univ...S1309

9 : 25~10 : 20 Poster Biomechanics**Moderator M. Ito**

- 2-Pe-1 A novel motion preservation device for atlanto-axial instability
*K. Kato, et al.*, Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine...S1310
- 2-Pe-2 Biomechanical effects of additional hook placements in multi-segment pedicle screw fixation for thoraco-lumbar spine.....*K. Sairyo, et al.*, Dept. of Orthop. Surg.,
 Teikyo Univ. Mizonokuchi Hosp...S1310
- 2-Pe-3 Micromovement of pedicle screws in spinal instrumentation
*Y. Kasai, et al.*, Dept. of Spinal Surg. and Medical Engineering, Mie Univ...S1311
- 2-Pe-4 Stretching positions for the coracohumeral ligament: Strain measurement during passive motion using fresh/frozen cadaver shoulders
*T. Izumi, et al.*, Graduate School of Health Sciences, Sapporo Medical Univ...S1311
- 2-Pe-5 Relative motion of tendon, nerve, and subsynovial connective tissue in human carpal tunnel
*Y. Yoshii, et al.*, Orthop. Biomechanics Laboratory, Mayo Clinic...S1312
- 2-Pe-6 The relationship between anatomical variety of distal interosseous membrane and distal radioulnar joint stability.....*T. Kitamura*, Orthop. Biomechanics Laboratory, Mayo Clinic...S1312
- 2-Pe-7 Three-dimensional lengths of the radioulnar ligaments in patients with triangular fibrocartilage complex injury.....*A. Iida, et al.*, Ishinkai Yao General Hosp...S1313
- 2-Pe-8 Effect of tibial tunnel position for double-bundle ACL reconstruction on knee biomechanics in a porcine model.....*N. Sasaki, et al.*, Dept. of Orthop. Surg., Hirosaki Univ.
 Graduate School of Medicine...S1313
- 2-Pe-9 Biomechanical study of the medial patellofemoral ligament on lateral patellar stability
*H. Matsumoto, et al.*, Dept. of Orthop. Surg., Keio Univ...S1314

9 : 25~10 : 10 Poster Peripheral nerve-1**Moderator M. Ikeda**

- 2-Pf-1 The effect of repeated restraint stress in pain-related behavior induced by nucleus pulposus applied on the nerve root in rats.....*K. Uesugi, et al.*, Dept. of Orthop. Surg.,
 Fukushima Medical Univ...S1315

- 2-Pf-2 Expression of microRNA-125b and TNF-alpha in dorsal root ganglions after peripheral nerve injury.....*K. Nakasaki, et al.*, Dept. of Orthop Surg., Graduate School of Biomedical Sciences, Hiroshima Univ...S1315
- 2-Pf-3 Expressions of transient receptor potential family changing in the dorsal root ganglion(L4-6) after spared nerve injury.....*T. Hirai, et al.*, Dept. of Orthop. Surg., Tokyo Medical and Dental Univ., Graduate School...S1316
- 2-Pf-4 End-to-side nerve repair with double nerve grafts improves nerve regeneration in rats*N. Iwakura, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1316
- 2-Pf-5 Therapeutic potential of *ex vivo* expanded CD133 cells for peripheral nerve injuries*S. Otsubo, et al.*, Dept. of Orthop. Surg., Graduate School of Biomedical Sciences, Hiroshima Univ...S1317
- 2-Pf-6 Axonal outgrowth and expression of p-ERK 1/2 and caspase 3 in Schwann cells after rat sciatic nerve repair.....*Y. Tsuda, et al.*, Dept. of Orthop. Surg., National Defense Medical College...S1317
- 2-Pf-7 Proteome analyses of protein level after peripheral nerve injury and regeneration*G. Oki, et al.*, Dept. of Orthop. Surg., Sapporo Medical Univ...S1318

9 : 25~10 : 10	Poster Peripheral nerve-2	Moderator Y. Nishiura
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- 2-Pg-1 Regulation of gicerin/CD146 expression by NGF or IGF-1 in PC12*S. Ohtake, et al.*, Dept. of Orthop. Surg., Iwate Medical Univ...S1319
- 2-Pg-2 Akt/mTOR signaling pathways regulate neurite outgrowth affected by methylcobalamin in cerebellar granule neurons*K. Okada, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Osaka Univ...S1319
- 2-Pg-3 Nerve transfer in the upper extremity produces bilateral somatosensory cortical representation*H. Yamashita, et al.*, Div. of Orthop. Surg., Niigata Univ. Graduate School of Medical and Dental Sciences...S1320
- 2-Pg-4 Destruction and regeneration of neuromuscular junction by extracorporeal shock wave*T. Kenmoku, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1320
- 2-Pg-5 Morphological study of neuromuscular junction and intramuscular branching pattern of motoneuron in rat skeletal muscle.....*M. Kato, et al.*, Dept. of Orthop., Jichi Medical Univ...S1321
- 2-Pg-6 Immunohistological evaluation of regenerative electrodes in peripheral nerves*H. Saito, et al.*, Dept. of Orthop. Surg., Murayama Medical Center, National Hosp. Organization...S1321
- 2-Pg-7 Expression of TLRs 2, 4 in the CTS flexor tenosynovium*Y. Kiyoshige, et al.*, Dept. of Orthop. Surg., Saiseikai Yamagata Hosp...S1322

9 : 25~10 : 20	Poster Biomaterials	Moderator Y. Hasegawa
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- 2-Ph-1 *In vivo* evaluation of chelate-setting calcium phosphate cement with various bioresorbability*M. Aizawa, et al.*, School of Science and Engineering, Meiji Univ...S1323
- 2-Ph-2 Phosphorylated pullulan bioadhesive for hard-tissue reconstruction*T. Takahata, et al.*, Science of Functional Recovery and Reconstruction, Okayama Univ. Graduate School...S1323
- 2-Ph-3 Inhibitory effects for the differentiation of immature chondrocyte by octacalcium phosphate*I. Shibuya, et al.*, Dept. of Oral. Biochem., Showa Univ. School of Dent...S1324
- 2-Ph-4 A study of novel unidirectional porous hydroxyapatite using as blocks for canine tibial wedge osteotomy model.....*A. Watanabe, et al.*, Dept. of Orthop. Surg., Graduate School of Comprehensive Human Sciences, Univ. of Tsukuba...S1324

- 2-Ph-5 Usefulness of unidirectional porous hydroxyapatite as a bone graft substitute: A study of the mechanical properties and an analysis of the preferential alignment of new bone
*T. Funayama, et al.*, Dept. of Orthop. Surg.,
 Graduate School of Comprehensive Human Sciences, Univ. of Tsukuba...S1325
- 2-Ph-6 Development of multiwalled carbon nanotubes composition ceramics: Part 2
*Y. Usui, et al.*, Dept. of Orthop. Surg., Shinshu Univ...S1325
- 2-Ph-7 Surface damage analysis with retrieval metal-on-metal hip bearings
*K. Kubo, et al.*, Dept. of Orthop. Surg., Tokyo Medical Univ...S1326
- 2-Ph-8 Metal implant debris has an effect on increasing tumor necrosis factor- α production of osteocyte-like cells *in vitro*.....*A. Kanaji, et al.*, Dept. of Orthop. Surg., Fujita Health Univ...S1326
- 2-Ph-9 Evaluation of long-term implanted CMW1 cement
*H. Oonishi, et al.*, H.OONISHI Memorial Joint Replacement Institute, Tominaga Hosp...S1327

9 : 25~10 : 10	Poster Cartilage-3	Moderator N. Adachi
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- 2-Pi-1 Identification of changes in surface markers and gene expressions to characterize dedifferentiation of monolayer expanded human articular chondrocytes
*T. Hamada, et al.*, Dept. of Orthop. Surg., Nagoya Univ...S1328
- 2-Pi-2 TGF- β signal-inhibitor SB431542 promotes BMP-induced chondrogenesis of ATDC5 cells
*I. Kawamura, et al.*, Dept. of Orthop. Surg.,
 Kagoshima Graduate School of Medical and Dental Science...S1328
- 2-Pi-3 Experimental study for interaction of jellyfish mucin and hyaluronic acid: The first report
*S. Ito, et al.*, Dept. of Orthop. Surg., Tokai Univ...S1329
- 2-Pi-4 17 β -estradiol inhibits the activation of volume-sensitive Cl⁻ current by doxorubicin in isolated rabbit articular chondrocytes.....*K. Kumagai, et al.*, Dept. of Orthop. Surg.,
 Shiga Univ. of Medical Sciences...S1329
- 2-Pi-5 Evaluation of T1 rho MRI for degenerative cartilage in osteoarthritis
*H. Tsushima, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Kyushu Univ...S1330
- 2-Pi-6 Optimal rotation number in rotational culture method evaluated with time-resolved laser induced fluorescence spectroscopy.....*T. Kutsuna, et al.*, Dept. of Orthop. Surg., Tokai Univ...S1330
- 2-Pi-7 Development of the hyperspectral imaging system for chondrocyte sheets evaluation
*M. Ishihara, et al.*, Dept. of Medical Engineering, National Defense Medical College...S1331

9 : 25~9 : 55	Poster Motion analysis-1	Moderator T. Majima
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- 2-Pj-1 Gender differences in knee kinetics during rehabilitation tasks
*H. Tanikawa, et al.*, Dept. of Orthop. Surg., Keio Univ...S1332
- 2-Pj-2 *In vivo* three dimensional motion analysis of the osteoarthritic knee during weight-bearing activity.....*K. Kawashima, et al.*, Dept. of Orthop. Biomaterial Science,
 Osaka Univ. Graduate School of Medicine...S1332
- 2-Pj-3 Accuracy of kinematic measurement of total ankle arthroplasty using 3D-2D registration
*S. Yamaguchi, et al.*, Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ...S1333
- 2-Pj-4 Muscle activities of asymptomatic rotator cuff tear patients and normal shoulder during shoulder abduction analyzed by positron emission tomography
*N. Shinozaki, et al.*, Dept. of Orthop. Surg., Tohoku Univ. Graduate School of Medicine...S1333
- 2-Pj-5 Establishment of functional neuromuscular stimulation therapy model after spinal cord injury on rats.....*T. Kanchiku, et al.*, Dept. of Orthop. Surg., Yamaguchi Univ.
 Graduate School of Medicine...S1334

9 : 55~10 : 30	Poster Motion analysis-2	Moderator K. Abumi
-----------------------	---------------------------------	---------------------------

- 2-Pj-6 Acceleration change at the pelvis by the operation of total hip arthroplasty
R. Ueno, et al., Dept. of Orthop. Surg., Tokyo Medical Univ...S1335
- 2-Pj-7 3D analysis of gait posture with high heel gait
A. Mabuchi, et al., Dept. of Orthop. Surg., Nagoya Univ...S1335
- 2-Pj-8 Motion analysis of spastic gait in patients with cervical myelopathy
T. Yayama, et al., Dept. of Orthop. and Rehabilitation Medicine, The Univ. of Fukui...S1336
- 2-Pj-9 Lumbo-sacral spinal sagittal alignment in normal volunteers
K. Endo, et al., Dept. of Orthop. Surg., Tokyo Medical Univ...S1336
- 2-Pj-10 Examination of the sitting balance in elderly people
K. Saitoh, et al., Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine...S1337
- 2-Pj-11 Evaluation of sitting balance in idiopathic scoliosis
K. Sasaki, et al., Dept. of Orthop. Surg., Akita Univ. Graduate School of Medicine...S1337

9 : 25~10 : 15	Poster Fracture	Moderator K. Inagaki
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- 2-Pk-1 Differential gene expression patterns of IGFs and IGFbps between experimental nonunions
 and standard healing fractures
A. Koh, et al., Dept. of Orthop. Surg., Kobe Univ. Graduate School of Medicine...S1338
- 2-Pk-2 Basic research on shape memory alloy implant for long bone fracture
T. Sakakibara, et al., Dept. of Spinal Surg. and Medical Engineering, Mie Univ...S1338
- 2-Pk-3 Pedicled vascularized bone graft for treatment of femur nonunion: Anatomical study
A. Yoshida, et al., Dept. of Orthop. Surg., Yoshimoto Orthop. and Surg. Hosp...S1339
- 2-Pk-4 Anatomical and histological study of the volar aspect of the distal end of radius: To perform
 safe volar locking plate fixation.....J. Imatani, et al., Dept. of Orthop. Surg.,
 Okayama Saiseikai General Hosp...S1339
- 2-Pk-5 Evaluation of the position of distal screws of volar locking plates for distal radius fracture:
 The second report.....H. Kondo, et al., Dept. of Orthop. Surg.,
 Okayama Saiseikai General Hosp...S1340
- 2-Pk-6 Collapsed femoral heads in patients 60 years of age or older: Histopathologic correlation with
 MRI.....S. Ikemura, et al., Dept. of Orthop. Surg.,
 Graduate School of Medical Sciences, Kyushu Univ...S1340
- 2-Pk-7 Detection of the microcracks in the human trochanteric region using a scanning acoustic mi-
 croscope.....H. Matsuki, et al., Dept. of Orthop. Surg., Shinshu Univ...S1341
- 2-Pk-8 Osteoporotic vertebral fracture: Mechanism of morphometric fracture
M. Machida, et al., National Hosp. Organization Murayama Medical Center...S1341

10 : 15~10 : 30	Poster Osteonecrosis	Moderator H. Sugiyama
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- 2-Pk-9 Expression of microRNAs in osteonecrosis.....K. Yamazaki, et al., Dept. of Orthop. Surg.,
 Graduate School of Biomedical Sciences, Hiroshima Univ...S1342
- 2-Pk-10 Lipid metabolism abnormality in alcohol-treated rabbits
S. Ikemura, et al., Dept. of Orthop. Surg., Graduate School of Medical Sciences,
 Kyushu Univ...S1342
- 2-Pk-11 Dose effects of corticosteroids on the development and repair process of osteonecrosis
G. Motomura, et al., Dept. of Orthop. Surg., Graduate School of Medical Sciences,
 Kyushu Univ...S1343

9 : 25~10 : 15	Poster Epidemiology • education • others	Moderator K. Chiba
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- 2-P1-1 The arch height in juvenile foot: Analysis of 10,000 cases
A. Waseda, et al., Dept. of Orthop. Surg., Keio Univ.··S1344
- 2-P1-2 Epidemiology of motility functions for falling
A. Nishimura, et al., Dept. of Musculoskeletal Surg., Mie Univ.
 Graduate School of Medicine··S1344
- 2-P1-3 Basic research for medical students····S. Ohtori, et al., Dept. of Orthop. Surg.,
 Graduate School of Medicine, Chiba Univ.··S1345
- 2-P1-4 Training of surgical anatomy for the postgraduate orthopaedic surgeons
M. Aoki, et al., Dept. of Orthop. Surg., Sapporo Daiichi Hosp.··S1345
- 2-P1-5 The changes of blood flow during straight leg raising test using the new type laser Doppler
K. Suzuki, et al., Dept. of Orthop. Surg., Fukushima Medical Univ.··S1346
- 2-P1-6 The expression of microRNA 370 in ischemia reperfusion injury
M. Nakanishi, et al., Dept. of Orthop. Surg., Graduate School of Biomedical Sciences,
 Hiroshima Univ.··S1346
- 2-P1-7 Relations of subjective and objective evaluation for chronic low back pain in pre- and post-trac-
 tion therapy····Y. Takata, et al., Sapporo Yamahana Orthop. Clinic··S1347
- 2-P1-8 The experimental study of the efficacy of allogeneic platelets gel on surgical wound healing in
 rats····C. Angthong, et al., Dept. of Orthop. Surg.,
 Faculty of Medicine Siriraj Hosp., Mahidol Univ., Nakhon Pathom, Thailand··S1347

9 : 25~9 : 55	Poster Imaging	Moderator M. Nakajima
----------------------	-----------------------	------------------------------

- 2-Pm-1 *In vivo* kinematics of rotating platform mobile-bearing total knee arthroplasty
M. Kurita, et al., Dept. of Orthop. Biomaterial Science,
 Graduate School of Medicine, Osaka Univ.··S1348
- 2-Pm-2 X-ray analysis of femoroacetabular impingement
H. Oishi, et al., Dept. of Orthop. Surg., Hirosaki Univ. Graduate School of Medicine··S1348
- 2-Pm-3 Three-dimensional assessment of cover of the femoral head in hip joint
D. Miyasaka, et al., Div. of Orthop. Surg., Niigata Univ.
 Graduate School of Medical and Dental Sciences··S1349
- 2-Pm-4 Comparison of the ankle joint space width between normal and flat feet using 3D CT recon-
 struction images····K. Imai, et al., Dept. of Orthop.,
 Graduate School of Medical Science, Kyoto Prefectural Univ. of Medicine··S1349
- 2-Pm-5 The accuracy and reproducibility of the loading device of the foot
M. Kido, et al., Dept. of Orthop., Graduate School of Medical Science,
 Kyoto Prefectural Univ. of Medicine··S1350

9 : 55~10 : 25	Poster Cauda equina • nerve root	Moderator K. Takahashi
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- 2-Pm-6 Clinical meaning of cytokine in lumbar disc herniation
H. Saito, et al., Dept. of Orthop. Surg., Fukushima Medical Univ.··S1351
- 2-Pm-7 Spinal neural cyclooxygenase-2 mediates pain caused in a rat model of lumbar disk herniation.
S. Ohtori, et al., Dept. of Orthop. Surg., Graduate School of Medicine, Chiba Univ.··S1351
- 2-Pm-8 Strain of upper lumbar nerve roots on femoral nerve stretch test
T. Takebayashi, et al., Dept. of Orthop. Surg., Sapporo Medical Univ.··S1352
- 2-Pm-9 Amyloid deposition in the ligamentum flavum
T. Taniwaki, et al., Dept. of Orthop. and Neuro-Musculoskeletal Surg.,
 Faculty of Medical and Pharmaceutical Sciences, Kumamoto Univ.··S1352

2-Pm-10 Effects of limaprost alfadex on fictive neurogenic intermittent claudication
..... *Y. Atsuta, et al.*, Dept. of Orthop. Surg., Asahikawa Medical College...S1353

2nd Day October 15 Room 1

18 : 00~18 : 20 Closing Ceremony

Congress President **Joji Mochida**