

Program

13:00~17:30 Bone Histomorphometry Hands-on Seminar

12:30-	Registration (Please complete your registration by 12:50)
13:00-13:05	Opening Remarks
13:05-13:30	Lecture 1: Animal testing
13:30-13:45	Lecture 2: Tissue preparation - Resin embedding
13:45-14:00	Lecture 3: Tissue preparation - Frozen sectioning
14:00-14:20	Breaks, Grouping and Setup time
14:20-14:40	Lecture on Histomorphometry
14:40-16:30	Hands-on Training
16:30-16:45	Q&As
16:45-17:00	Award of Certificates / Comments and Feedback
17:00-17:30	Open Discussion

■ Lecturers

Kazuhiro Aoki	Department of Basic Oral Health Engineering, Graduate School of Medical and Dental Sciences, Institute of Science Tokyo
Keiko Izumi	Leica Microsystems, Inc
Yoshiko Iwasaki	Department of Health Sciences, Nippon Bunri University
Koji Osada	Shoshin EM Corp.
Makoto Kajiwara	Sagami Bone Analysis Laboratory
Shogo Kubota	Ratoc System Engineering Co., Ltd.
Taketoshi Shimakura	Niigata Bone Science Institute
Azusa Seki	Clino Corporation
Ryoko Takao-Kawabata	Asahi Kasei Therapeutics Corporation
Aya Takakura	Asahi Kasei Therapeutics Corporation Medical Affairs Dept.
Nobuhito Nango	Ratoc System Engineering Co., Ltd.
Kenji Matsui	Corporation Limited SYSTEM SUPPLY

Thursday, June 18, 2026 (DAY 1)

Special Conference Room (1F)

15:00~16:00 Board of Directors

16:00~17:00 Journal Editorial Committee

17:00~17:50 Reconsideration Committee

9:30~9:40 **Opening Remarks**

9:40~10:40 **Special Lecture 1**
『Osteoporosis Treatment: Insights from Clinical Guidelines』

Chair : Atsuhiko Hikita (Department of Clinical Stem Cell Biology, Graduate School of Medicine, the University of Tokyo)

SL1 **Osteoporosis treatment aimed at fracture prevention**

Sakae Tanaka

Department of Orthopaedic Surgery, The University of Tokyo

10:50~11:50 **Educational Lecture 1**

Chair : Yasuo Imanishi (Department of Vascular Medicine Vascular Science Center for Translational Research Osaka Metropolitan University Graduate School of Medicine)

EL1 **A Paradigm Shift in the Concept of Calcium-Phosphate Metabolism Disorders**

Junichiro James Kazama

Department of Nephrology and Hypertension, Fukushima Medical University

13:40~14:40 **Special Lecture 2**
『Analysis of evolutionary history through the detection and comparison of bone morphology』

Chair : Atsuhiko Hikita (Department of Clinical Stem Cell Biology, Graduate School of Medicine, the University of Tokyo)

SL2 **The body evolutionary history revealed by bone measurements and observations**

Hideki Endo

The University Museum, The University of Tokyo

14:50~15:50 Educational Lecture 2

Chairs : Satoshi Ikeda (Department of Orthopaedic Surgery, Ken-Ai Memorial Hospital)
Nobukazu Okimoto (Okimoto Clinic)

EL2 Research on osteoporosis and sarcopenia from an orthopedic perspective: from their origins to future challenges

Naohisa Miyakoshi

Department of Orthopedic Surgery, Akita University Graduate School of Medicine

16:00~17:30 『Joint Symposium of the Japan Osteoporosis Society and Japanese Society for Bone Morphometry: Interpreting the “Guidelines for the Prevention and Treatment of Osteoporosis (2025 Edition) ”』

Chairs : Daisuke Inoue (Third Department of Medicine, Teikyo University Chiba Medical Center)
Akinori Sakai (Department of Orthopaedic Surgery, School of Medicine, University of
Occupational and Environmental Health)

JS-1 Osteoporosis Epidemiology: An Update

Noriko Yoshimura

Department of Preventive Medicine for Locomotive Organ Disorders, 22nd Century Medical and Research
Center, The University of Tokyo

JS-2 Diagnosis and risk evaluation of osteoporosis

Sumito Ogawa

Department of Geriatric Medicine, Graduate School of Medicine, The University of Tokyo

JS-3 Prevention and management for osteoporosis

Noriaki Yamamoto

Department of Orthopedic surgery, Niigata Rehabilitation Hospital

JS-4 Pharmacological Treatment for Osteoporosis

Hiroshi Hagino

Department of Rehabilitation, Sanin Rousai Hospital

JS-5 Secondary Osteoporosis

Yasuhiro Takeuchi

KKR Toranomom Hospital Kajigaya

JS-6 Osteoporosis Liaison Service

Jun Iwamoto

Keiyu Orthopaedic Hospital Bone and Joint Disease Center

17:40~18:40 Special Lecture 4

Chair : Junichiro James Kazama (Department of Nephrology and
Hypertension, Fukushima Medical University)

SL4 Bone response to mechanical stress: a histomorphometric approach

Akinori Sakai

Department of Orthopaedic Surgery, School of Medicine, University of Occupational and Environmental
Health

10:50~12:20 Symposium 1

**『Integrating Spatial Information and Image Analysis
with Orthopedic Surgery』**

Chairs : Takashi Nagai (Showa Medical University School of Medicine,
Department of Rehabilitation Medicine)

Ko Chiba (Department of Orthopedic Surgery, Nagasaki
University Graduate School of Biomedical Sciences)

S1-1 Next-Generation Orthopedic Surgical Assistance Enabled by AI and Image Analysis

Yoshinobu Sato¹⁾, Yoshito Otake²⁾, Mazen Soufi^{2,3)}, Yi Gu²⁾, Yoshiyuki Kagiya⁴⁾,
Keisuke Uemura⁵⁾, Masaki Takao⁶⁾, Nobuhiko Sugano⁷⁾

¹⁾ Department of Mathematical and AI Medical Science, Nara Medical University,

²⁾ Division of Information Science, Nara Institute of Science and Technology,

³⁾ Faculty of Engineering, University of Miyazaki,

⁴⁾ Graduate Faculty of Interdisciplinary Research, University of Yamanashi,

⁵⁾ Graduate School of Medicine, University of Osaka,

⁶⁾ Graduate School of Medicine, Ehime University,

⁷⁾ Department of Orthopaedic Surgery, Kawanishi City Medical Center

S1-2 Integration of Imaging Analysis Technologies in the Management of Hip Disorders

Hyonmin Choe, Koki Abe, Hironori Yamane, Yuta Hieda, Hiroyuki Ike, Yutaka Inaba
Department of Orthopaedic Surgery, Yokohama City University Hospital

S1-3 Fundamentals of metal 3D printing and its application to orthopedics

Takayoshi Nakano

Biomaterials & Structural Materials Design Area, Graduate School of Engineering, The University of Osaka

**S1-4 Bone Fragility from the Perspective of Bone Microarchitecture:
Osteoporosis Management for Orthopedic Surgery**

Ko Chiba

Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences

12:30~13:30 Luncheon Seminar 1

Chair : Satoshi Ikeda (Department of Orthopaedic Surgery, Ken-Ai Memorial Hospital)

Co-Sponsor : Asahi Kasei Therapeutics Corporation

LS1 Treatment strategy for osteoporotic spinal kyphosis with teriparatide and therapeutic exercise

Naohisa Miyakoshi

Department of Orthopedic Surgery, Akita University Graduate School of Medicine

14:50~16:20 Presidential Program 1

『Elucidating Spatiotemporal Information in Bone』

Chairs : Tadahiro Iimura (Department of Pharmacology, Hokkaido University, Faculty and Graduate School of Dental Medicine)

Atsuhiko Hikita (Department of Clinical Stem Cell Biology, Graduate School of Medicine, the University of Tokyo)

PP1-1 Visualizing bone: Intravital imaging reveals the spatiotemporal dynamics of bone remodeling

Junichi Kikuta

Division of Immunology, Department of Microbiology and Infectious Diseases, Graduate School of Medicine, Kobe University

PP1-2 Spatiotemporal omics reveals bone remodeling

Hiroyuki Okada¹⁾, Ung-il Chung^{1,2)}

¹⁾ Department of Clinical Biotechnology, Center for Disease Biology and Integrative Medicine, Graduate School of Medicine, the University of Tokyo,

²⁾ Department of Bioengineering, Graduate School of Engineering, the University of Tokyo

PP1-3 Efferocytosis of Apoptotic Osteoclasts Reawakens Osteoblasts in Functional Bone Organoids

Naoki Tsuji^{1,2)}, Tomoaki Sakamoto¹⁾, Haruhisa Watanabe³⁾, Takashi Nakamura⁴⁾, Kazuto Hoshi²⁾, Tadahiro Iimura³⁾, Atsuhiko Hikita^{1,2)}

¹⁾ Department of Clinical Stem Cell Biology, Graduate School of Medicine, The University of Tokyo,

²⁾ Department of Sensory and Motor System Medicine, Graduate School of Medicine, The University of Tokyo,

³⁾ Department of Pharmacology, Hokkaido University, Faculty and Graduate School of Dental Medicine,

⁴⁾ Oral Health Science Center, Tokyo Dental College

16:30~17:30 Special Lecture 3

『Symmetry and asymmetry in bone tissue』

Chair : Atsuhiko Hikita (Department of Clinical Stem Cell Biology, Graduate School of Medicine, the University of Tokyo)

SL3 Homochiral Bilaterality: A New Concept of Symmetry Proposed via Micro-Bone Morphometry

Koichi Matsuo^{1,2)}

¹⁾ Keio University School of Medicine/CIEM (Central Institute for Experimental Medicine and Life Sciences,

²⁾ CIEM (Central Institute for Experimental Medicine and Life Sciences)

17:40~18:40 Symposium 2

『New advances in medicine driven by AI, from diagnostics to comprehensive health management.』

Chairs : Hiroshi Kamioka (Department of Orthodontics, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences)

Tadahiro Iimura (Department of Pharmacology, Hokkaido University, Faculty and Graduate School of Dental Medicine)

S2-1 Support system for dental diagnosis and treatment using 3D shape AI

Kenichi Morooka

Division of Biomedical Engineering Faculty of Advanced Science and Technology Kumamoto University

S2-2 A Novel Approach to Bone Assessment: Artificial Intelligence-Based Estimation of Bone Mineral Density from Plain Radiographs

Toru Moro^{1,2,3)}, Taku Saito^{2,4)}, Hiroyuki Oka^{2,5)}, Takeyuki Tanaka^{2,5)}, Kumiko Ono²⁾, Hisatoshi Ishikura^{1,2)}, Toshiko Iidaka^{2,6)}, Yudai Kumanomido²⁾, Noriko Yoshimura⁶⁾, Sakae Tanaka²⁾

¹⁾ Division of Science for Joint Reconstruction, Graduate School of Medicine, The University of Tokyo,

²⁾ Orthopaedic Surgery, Sensory and Motor System Medicine, Surgical Sciences, Graduate School of Medicine, The University of Tokyo,

³⁾ Next Generation Artificial Intelligence Research Center, The University of Tokyo,

⁴⁾ Osteoporosis Center, The University of Tokyo Hospital,

⁵⁾ Division of Musculoskeletal AI System Development, Graduate School of Medicine, The University of Tokyo,

⁶⁾ Department of Preventive Medicine for Locomotive Organ Disorders, 22nd Century Medical & Research Center, Faculty of Medicine, The University of Tokyo

10:50~12:00 General Session 1

『Omics, AI and Imaging』

Chairs : Naoki Tsuji (Department of Clinical Stem Cell Biology, Graduate School of Medicine, The University of Tokyo)
Aya Takakura (ASAHI KASEI THERAPEUTICS CORPORATION)

O1-1 Osteocyte profiling by spatial transcriptome

Hiroyuki Okada^{1,2,3)}, Fumiko Yano⁴⁾, Asuka Terashima⁵⁾, Sanshiro Kanazawa⁶⁾, Shigeto Seno⁷⁾, Junichi Kikuta⁸⁾, Roland Baron³⁾, Sakae Tanaka²⁾, Ung-il Chung^{1,9)}, Hironori Hojo^{1,9,10)}

¹⁾ Center for Disease Biology and Integrative Medicine, Graduate School of Medicine, the University of Tokyo,

²⁾ Department of Orthopaedic Surgery, the University of Tokyo,

³⁾ Department of Oral Medicine, Infection, and Immunity, Harvard School of Dental Medicine,

⁴⁾ Showa Medical University Research Administration Center,

⁵⁾ Bone and Cartilage Regenerative Medicine, the University of Tokyo Hospital,

⁶⁾ Department of Oral and Maxillofacial Surgery, Graduate School of Medicine, the University of Tokyo,

⁷⁾ Department of Bioinformatic Engineering, Graduate School of Information Science and Technology, the University of Osaka,

⁸⁾ Division of Immunology, Department of Future Medical Sciences, Graduate School of Medicine, Kobe University,

⁹⁾ Department of Bioengineering, Graduate School of Engineering, the University of Tokyo,

¹⁰⁾ Department of Bioinformatics, Graduate School of Dentistry, the University of Osaka

O1-2 Elucidation of the spatially specific effect of Teriparatide on enhancing cortical bone remodeling in rabbit tibiae by AI/GIS-driven bone morphometry

Marie Hoshi-Numahata^{1,2)}, Aya Takakura³⁾, Atsuko Nakanishi-Kimura^{1,2)}, Haruhisa Watanabe¹⁾, Yoshiaki Sato²⁾, Ryoko Takao-Kawabata³⁾, Tadahiro Iimura¹⁾

¹⁾ Department of Pharmacology, Faculty of Dental Medicine, Hokkaido University,

²⁾ Department of Orthodontics, Faculty of Dental Medicine, Hokkaido University,

³⁾ Pharmaceuticals Research Center, Asahi Kasei Pharma Corporation

O1-3 Pharmacological Effects of Teriparatide on Bone Remodeling in Parietal and Mandibular Bones of Ovariectomized Rats: An AI-Driven Multiscale Analysis

Atsuko Nakanishi-Kimura^{1,2)}, Aya Takakura³⁾, Marie Hoshi-Numahata^{1,2)}, Haruhisa Watanabe²⁾, Yoshiaki Sato¹⁾, Ryoko Takao-Kawabata³⁾, Tadahiro Iimura²⁾

¹⁾ Department of Pharmacology, Faculty and Graduate School of Dental Medicine, Hokkaido University, Japan,

²⁾ Department of Orthodontics, Faculty and Graduate School of Dental Medicine, Hokkaido University, Japan,

³⁾ Pharmaceuticals Research Center, Asahi Kasei Pharma Corporation, Japan

O1-4 Foundation of AI-based chondrocyte purification and isolation method for cartilage regeneration medicine

Reina Shimizu^{1,2)}, Yukiyo Asawa³⁾, Hideyuki Suenaga¹⁾, Kazuto Hoshi^{2,3,4)},
Atsuhiko Hikita³⁾

¹⁾ Department of Oral and Maxillofacial Surgery, Graduate School of Dentistry, Kanagawa Dental University,

²⁾ Department of Oral-maxillofacial Surgery, Dentistry and Orthodontics, The University of Tokyo Hospital,

³⁾ Division of Tissue Engineering, The University of Tokyo Hospital,

⁴⁾ Department of Sensory and Motor System Medicine, Graduate School of Medicine, The University of Tokyo

O1-5 Super enhancer analysis between species reveals osteoblast core transcriptional network and the role of human genomic variants associated with osteoporosis

Shinse Fujita^{1,2)}, Shoichiro Tani³⁾, Harumi Nakao⁴⁾, Hiroyuki Okada^{1,2)}, Taku Saito²⁾,
Sakae Tanaka²⁾, Shinsuke Ohba⁵⁾, Ung-il Chung^{1,6)}, Hironori Hojo⁷⁾

¹⁾ Clinical Biotechnology, Center for Disease Biology and Integrative Medicine, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan,

²⁾ Department of Orthopaedic Surgery, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan,

³⁾ Children's Medical Center Research Institute at the University of Texas Southwestern, TX, USA,

⁴⁾ Laboratory of Animal Resources, Center for Disease Biology and Integrative Medicine, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan,

⁵⁾ Department of Tissue and Developmental Biology, Graduate School of Dentistry, The University of Osaka, Osaka, Japan,

⁶⁾ Department of Bioengineering, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan,

⁷⁾ Bioinformatics Research Unit, Graduate School of Dentistry, The University of Osaka, Osaka, Japan

O1-6 Functional Bone Organoids Provide Insights into Site-Specific Bone Resorption by Osteoclasts

Naoki Tsuji¹⁾, Tomoaki Sakamoto¹⁾, Takashi Nakamura²⁾, Kazuto Hoshi³⁾,
Atsuhiko Hikita¹⁾

¹⁾ Department of Clinical Stem Cell Biology, The University of Tokyo Hospital,

²⁾ Oral Health Science Center, Tokyo Dental College,

³⁾ Department of Sensory and Motor System Medicine, Graduate School of Medicine, The University of Tokyo

O1-7 Parathyroid hormone exposure frequency regulates spatiotemporal coupling during bone remodeling in functional bone organoids

Ahmed Elshal^{1,2)}, Naoki Tsuji^{1,2)}, Tomoaki Sakamoto²⁾, Takashi Nakamura³⁾,
Kazuto Hoshi¹⁾, Atsuhiko Hikita^{1,2)}

¹⁾ The University of Tokyo Graduate School of Medicine,

²⁾ Department of Clinical Stem Cell Biology, The University of Tokyo Hospital,

³⁾ Oral Health Science Center, Tokyo Dental College

12:30~13:30 Luncheon Seminar 2

Chair : Shinya Tanaka (Department of Orthopaedic Surgery and Center for Joint Replacement
Toto Kasukabe Hospital, Medical Corporation Zenjinkai)

Co-Sponsors : Teijin Pharma Limited / Teijin Healthcare Limited

LS2 Impact of PTH1R Agonists on Bone Quality and Strength Based on the Mechanism of Accelerated Bone Remodeling

Nobukazu Okimoto

Okimoto Clinic

13:40~14:40 General Session 2

『DXA, Ultrasound』

Chairs : Keita Nagira (Department of Orthopedic Surgery, Faculty of Medicine, Tottori University)
Yoshiko Iwasaki (Department of Health Sciences, Nippon Bunri University)

O2-1 Proximal femur bone microarchitecture in rheumatoid arthritis: Comparison with postmenopausal osteoporosis using 3D-SHAPER

Yusuke Suzuki¹⁾, Shigenori Tamaki¹⁾, Takashi Kato²⁾, Motokazu Kai³⁾,
Kunikazu Ogawa³⁾, Ikuko Tanaka¹⁾

¹⁾ Nagoya Rheumatology Clinic, Nagoya, Japan,

²⁾ National Center for Geriatrics and Gerontology, Obu, Japan Department of Radiology,

³⁾ Mie Rheumatology Clinic, Suzuka, Japan

O2-2 Bone Mineral Density of the Proximal Femur and Lumbar Spine in Hip Osteoarthritis: Comparison with Healthy controls

Kazuteru Shiraishi, Ko chiba, Makoto Osaki

The department of Orthopaedic Surgery, Nagasaki university hospital

O2-3 Radiofrequency Echographic Multi-spectrometry (REMS) as a Potentially Useful Device for Assessing Lumbar Bone Mineral Density in Patients with Chronic Kidney Disease

Reika Flora Moriya, Satoshi Hata, Kenichi Tanaka, Junichiro James Kazama

Department of Nephrology and Hypertension, Fukushima Medical University

O2-4 Changes in Periprosthetic Bone Mineral Density After THA Using the Accolade II Stem

Kouki Akita¹⁾, Ken Iwata²⁾, Teppei Senda²⁾, Takahiro Negayama²⁾, Ryuichi Isozaki²⁾,
Masakazu Ishikawa²⁾

¹⁾ Ritsurin Hospital, ²⁾ Kagawa University Hospital

O2-5 Experimental Validation of a Multidirectional Optical Bone Densitometry Method Using Forearm Phantoms

Shigeo Tanaka¹⁾, Masato Jindo²⁾

¹⁾ Faculty of Frontier Engineering, Institute of Science and Engineering, Kanazawa University,

²⁾ Division of Frontier Engineering, Graduate School of Natural Science and Technology, Kanazawa University

O2-6 Simulation of ultrasound propagation in the proximal human femur using a digital model

Yusei Matsumoto¹⁾, Takamitsu Maeda¹⁾, Ko Chiba²⁾, Mami Matsukawa¹⁾

¹⁾ Science Engineering, Doshisha University, Kyotanabe, Kyoto, Japan,

²⁾ Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences

14:50~16:00 General Session 3
『Bone Quality』

Chairs : Aira Matsugaki (The University of Osaka)

Hiromi Kimura-Suda (Department of Applied Chemistry and Bioscience,)

O3-1 Cell-bone matrix orthogonality in tissue microstructure formation

Kyohei Takeshita, Yohei Nakanishi, Tadaaki Matsuzaka, Aira Matsugaki,
Takayoshi Nakano

The University of Osaka

O3-2 A New Evaluation Index for Bone Compatibility in Implant Materials

Tadaaki Matsuzaka, Aira Matsugaki, Takayoshi Nakano

Graduate School of Engineering, The University of Osaka

O3-3 Evaluation of Spectroscopic Bone Quality Parameters in a Phase-Separated Model of Bone Mineral Components

Ryo Takeuchi, Mizuki Sakamoto, Hiromi Kimura-Suda

Chitose Institute of Science and Technology

O3-4 Investigation of histological and morphological changes and transcriptome profiles in the mandible during recovery from masseter muscle hypofunction during growth

Chie Tachiki¹⁾, Satoru Matsunaga²⁾, Haruka Fukuda¹⁾, Yasushi Nishii¹⁾

¹⁾ Department of Orthodontics, Tokyo Dental College,

²⁾ Department of Anatomy, Tokyo Dental College

O3-5 Acceleration of extraction socket healing with ridge preservation using OCP/Collagen

Satoru Matsunaga^{1,2)}, Toshihide Mizoguchi²⁾, Shinichi Abe^{1,2)}

¹⁾ Department of Anatomy, Tokyo Dental College,

²⁾ Oral Health Science Center, Tokyo Dental College

O3-6 Alterations in bone matrix orientation associated with drug-induced bone fragility

Mitsuka Saito, Aira Matsugaki, Takayoshi Nakano

Division of Materials and Manufacturing Science, Graduate School of Engineering, The University of Osaka

O3-7 Aligned osteoblasts and oriented bone matrix exhibit antibacterial properties

Toko Mori, Aira Matsugaki, Takayoshi Nakano

Division of Materials and Manufacturing Science, Graduate School of Engineering, University of Osaka

16:10~17:10 General Session 4

『CT』

Chairs : Ko Chiba (Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences)

Naoki Kondo (Division of Orthopedic Surgery, Department of Regenerative and Transplant Medicine, Niigata University Graduate School of Medical and Dental Sciences)

O4-1 Evaluation of CT Number (HU) Variability Across Different CT Scanners and Imaging Protocols

Tatsunari Aoki, Ko Chiba, Makoto Osaki

Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences

O4-2 Significance of Peripheral Bone Microarchitectural Assessment by HR-pQCT in Postmenopausal Women: Associations with Central DXA and Central Bone Microarchitecture

Junya Mukai^{1,2,3)}, Ko Chiba²⁾, Toshiyuki Tsurumoto²⁾, Makoto Ozaki²⁾

¹⁾ Department of Orthopaedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan,

²⁾ Department of Orthopaedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan,

³⁾ Acute & Critical Care Center, Nagasaki University Hospital, Nagasaki, Japan

O4-3 Evaluation of bone cement penetration using 3D-printed bone models based on HR-pQCT

Yohei Shimonagayoshi, Ko Chiba, Kazuteru Shiraishi, Makoto Osaki

Nagasaki University Hospital

O4-4 Can a vertebral Hounsfield unit predict new vertebral osteoporotic fractures? Compare to three - dimensional bone microstructure and finite element analysis

Masafumi Machida¹⁾, Nobuhito NANGO²⁾, Shogo KUBOTA²⁾, Kazutaka NOMURA²⁾, Yuusuke HORIUCHI²⁾, Moeko SHIMIZU²⁾, Mansaku NANGO²⁾

¹⁾ Department of Orthopaedic Surgery, Hakujuikai Memorial General Hospital, ²⁾ Ratoc System Engineering Co.

O4-5 Examining the 3D morphological characteristics and fracture risk of bone affected by renal osteoporosis and primary osteoporosis using clinical CT images (Complementarity between CT image analysis and histological morphometry)

Yusuke Horiguchi¹⁾, Shogo Kubota¹⁾, Kazutaka Nomura¹⁾, Moeko Shimizu¹⁾, Shinya Tanaka²⁾, Ko Chiba³⁾, Masafumi Machida⁴⁾, Nobuhito Nango¹⁾

¹⁾ Ratoc System Engineering Co., Ltd., Tokyo, Japan, ²⁾ Touto Kasukabe Hospital, Kasukabe, Japan,

³⁾ Department of Orthopedic Surgery, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan,

⁴⁾ Healthcare Foundation Hakujikai Memorial Hospital, Tokyo, Japan

O4-6 Evaluation of Pharyngeal Airway Volume and Cross-sectional Area Changes Following Maxillary Distraction Osteogenesis in Patients with Cleft Lip and Palate

Sachi Oshima¹⁾, Rika Narita^{1,2)}, Hidemi Nakata¹⁾, Hideto Saijo⁴⁾, Kazuto Hoshi^{1,3)}

¹⁾ Oral-Maxillofacial Surgery and Orthodontics, The University of Tokyo,

²⁾ Cleft Lip and Palate Center, The University of Tokyo Hospital,

³⁾ Oral and Maxillofacial Surgery, Department of Sensory and Motor System Medicine, Graduate School of Medicine, The University of Tokyo,

⁴⁾ Department of Oral and Maxillofacial Surgery Field of Oral and Maxillofacial Rehabilitation Developmental Therapeutics Course Graduate School of Medical and Dental Sciences

17:20~18:30 General Session 5

『Bone Metabolism: Basic』

Chairs : Hiroyuki Okada (Center for Disease Biology and Integrative Medicine,
Graduate School of Medicine, the University of Tokyo)

Ryoko Takao-Kawabata (Asahi Kasei Therapeutics Corporation)

O5-1 Effects of Abaloparatide on Cancellous Bone Healing in a Rat Model of Glucocorticoid-Induced Osteoporosis

Akari Hisada, Manabu Akagawa, Kenta Tominaga, Yuichi Ono, Hiroyuki Tsuchie, Kouji Nozaka, Yuji Kasukawa, Michio Hongo, Naohisa Miyakoshi

Department of Orthopedic, University of Akita

O5-2 Signal crosstalk between IGF1R/PAPP-A and IGF1R regulates osteoclast differentiation

Yusaku Hamada¹⁾, Takashi Izawa²⁾, Yuri Yoshikawa²⁾, Gohji Kozaki³⁾, Misa Taguchi³⁾, Hiroshi Kamioka²⁾

¹⁾ Okayama University Hospital Orthodontics,

²⁾ Department of Orthodontics, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University,

³⁾ Department of Orthodontics, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences

O5-3 Elucidation of the pharmacological differences of two distinct bone anabolic drugs on calvarial bone defect model using female aged rats

Riyu Koguchi (Yoshida)^{1,2)}, Haruhisa Watanabe¹⁾, Aya Takakura³⁾, Tadahiro Imura¹⁾

¹⁾ Department of Pharmacology, Graduate School of Dental Medicine, Hokkaido University, Sapporo, Japan,

²⁾ Oral Diagnosis and Medicine, Graduate School of Dental Medicine, Hokkaido University, Sapporo, Japan,

³⁾ Medical Affairs Department, Asahi Kasei Pharma Corporation, Tokyo, Japan

O5-4 Teriparatide attenuates bone destruction and local inflammation and promotes recovery of bone microarchitecture in a rat model of pyogenic spondylodiscitis

Yo Morishita¹⁾, Yuji Kasukawa^{1,2)}, Michio Hongo^{1,3)}, Koji Nozaka¹⁾, Hiroyuki Tsuchie¹⁾, Manabu Akagawa¹⁾, Yuichi Ono¹⁾, Akari Hisada¹⁾, Genki Tojo¹⁾, Naohisa Miyakoshi¹⁾

¹⁾ Department of Orthopedic Surgery, Akita University Graduate School of Medicine,

²⁾ Division of Rehabilitation Medicine, Akita University Hospital, Akita, Japan,

³⁾ Department of Physical Therapy, Akita University Graduate School of Health Sciences, Akita, Japan

O5-5 Inhibitory Effects of Upacicalcet on Vascular Calcification

Tomoka Hasegawa¹⁾, Tomomaya Yamamoto^{1,2)}, Xuanyu Liu¹⁾, Mai Haraguchi-Kitakamae¹⁾, Hiromi Hongo¹⁾, Seigo Akari³⁾, Takashi Nakamura³⁾, Norio Amizuka¹⁾

¹⁾ Ultrastructure of Hard Tissue, Faculty of Dental Medicine, Hokkaido University,

²⁾ Department of Dentistry, Japan Ground Self-Defense Force, Camp Shinmachi,

³⁾ Department of Medical Affairs, Sanwa Kagaku Kenkyusho Co., Ltd

O5-6 RANKL-Binding Peptide Promotes Bone Formation in Calvarial Defects with HAp/Col Without BMP-2

Cao Huan¹⁾, Cangyou Xie^{1,3)}, Derong Chen^{1,2)}, Khan Md Abdulla Al MASUD¹⁾, Taishi Yoko²⁾, Taishi Kawashita²⁾, Kazuhiro Aoki¹⁾

¹⁾ Department of Basic Oral health Engineering, Graduate School of Medical and Dental Sciences, Institute of Science Tokyo,

²⁾ Department of Inorganic Biomaterials, Graduate School of Medical and Dental Sciences, Institute of Science Tokyo,

³⁾ Faculty of Dentistry, Matsumoto Dental University

O5-7 Apatite orientation is reduced in elastase-induced emphysema mice

Manabu Tsukamoto¹⁾, Takayuki Nabeshima¹⁾, Yosuke Mano¹⁾, Daisuke Arakawa¹⁾, Ke-Yong Wang²⁾, Ryosuke Ozasa³⁾, Takayoshi Nakano³⁾, Akinori Sakai¹⁾

¹⁾ Department of Orthopaedic Surgery, School of Medicine, University of Occupational and Environmental Health,

²⁾ Shared-Use Research Center, School of Medicine, University of Occupational and Environmental Health,

³⁾ Division of Materials and Manufacturing Science, Graduate School of Engineering, The University of Osaka

9:30~10:30 Special Lecture 5

Chair : Tadahiro Iimura (Department of Pharmacology, Hokkaido University,
Faculty and Graduate School of Dental Medicine)

SL5 Rethinking Bone Marrow Adipose Tissue

Erica L. Scheller

Division of Bone and Mineral Diseases, Washington University School of Medicine / Washington University
Center of Regenerative Medicine

10:40~12:10 Presidential Program 2
『The Frontier of Translational Research in Bone and Cartilage』

Chairs : Tadahiro Iimura (Department of Pharmacology, Hokkaido University,
Faculty and Graduate School of Dental Medicine)
Atsuhiko Hikita (Department of Clinical Stem Cell Biology, Graduate
School of Medicine, the University of Tokyo)

PP2-1 Single cell RNA-seq analysis of bone and joint

Yasunori Omata

Bone and Cartilage Regenerative Medicine, The University of Tokyo Hospital

PP2-2 Autoimmune Osteomalacia

Nobuaki Ito

Division of Therapeutic Development for Intractable Bone Diseases, Graduate School of Medicine and Faculty
of Medicine The University of Tokyo

13:30~14:00 General Meeting & Award Ceremony

14:10~15:10 Educational Lecture 3

Chair : Naohisa Miyakoshi (Department of Orthopedic Surgery, Akita
University Graduate School of Medicine)

EL3 Ossification of the Spinal Ligaments, a Japanese Disease: The Mystery of Heterotopic Ossification and Emerging Factors

Masahiko Takahata^{1,2)}, Yoshinao Koike^{2,3)}, Chikashi Terao³⁾

¹⁾ Department of Orthopedic Surgery, Dokkyo Medical University, School of Medicine,

²⁾ Department of Orthopedic Surgery, Graduate School of Medicine, Hokkaido University,

³⁾ Genome Analysis Application Research Team, RIKEN

15:20~16:20 Reconsideration Committee Program

**『Integrated Evaluation of Bone Morphology:
Evolving Bone Histomorphometric Insights』**

Chairs : Shinya Tanaka (Department of Orthopaedic Surgery and Center for Joint Replacement
Toto Kasukabe Hospital, Medical Corporation Zenjinkai)

Ko Chiba (Department of Orthopedic Surgery, Nagasaki University Graduate School
of Biomedical Sciences)

RC-1 Understanding CKD-MBD Through the Lens of Bone Tissue

Yoshiko Iwasaki

Department of Health Sciences, Nippon Bunri University

RC-2 Examining the 3D morphological characteristics and fracture risk of bone affected by renal osteoporosis and primary osteoporosis using clinical CT images (Complementarity between CT image analysis and histological morphometry)

Nobuhito Nango, Shogo Kubota

Ratoc System Engineering Co., Ltd.

16:40~16:55 Closing Remarks

10:40~12:10 Symposium 3
『Bone Quality Update』

Chairs : Takayoshi Nakano (Biomaterials & Structural Materials Design Area, Graduate School of Engineering, The University of Osaka)
Mitsuru Saito (Jikei University School of Medicine Department of Orthopaedic Surgery)

S3-1 Fundamentals and advances in bone matrix orientation as a bone quality parameter

Takayoshi Nakano

Biomaterials & Structural Materials Design Area, Graduate School of Engineering, The University of Osaka

S3-2 The Science of Bone Maturation and Aging: Analytical Innovation to Pitfalls in Animal Model Selection

Mitsuru Saito

Jikei University School of Medicine Department of Orthopaedic Surgery

12:20~13:20 Luncheon Seminar 3

Chair : Junichiro James Kazama (Department of Nephrology and Hypertension, Fukushima Medical University)

Co-Sponsor : Daiichi Sankyo Company, Limited

LS3 Goal-Directed Osteoporosis Treatment

Jyunichi Takada

Osteoporosis Center, Sapporo Maruyama Orthopaedic Hospital

14:10~16:30 Symposium 4
『[Omics] Spatial Biology for Bone Morphometry』

Chairs : Haruhisa Watanabe (Hokkaido University, Graduate School of Dental medicine, Pharmacology)
Naoki Tsuji (Department of Clinical Stem Cell Biology, Graduate School of Medicine, The University of Tokyo)

S4-1 The diversity of mesenchymal stem cells underlying bone morphology

Haruhisa Watanabe^{1,2)}, Tadahiro Iimura¹⁾

¹⁾ Hokkaido University, Graduate School of Dental medicine, Pharmacology,

²⁾ Hiroshima University, Graduate School of Biomedical and Health Sciences, Department of Oral and Maxillofacial Surgery

S4-2 Skeletal cell landscape: the dual fates of regeneration and exhaustion

Yuki Matsushita

Nagasaki University Graduate School of Biomedical Sciences, Department of Skeletal Development and Regenerative Biology

S4-3 Understanding gene regulatory programs in bone and cartilage development

Shinsuke Ohba

Department of Tissue and Developmental Biology, Graduate School of Dentistry, The University of Osaka

S4-4 Integrating Bone Organoids with Spatial Omics: Evaluation of a Human Osteogenesis Model Based on Spatial Coordinates

Hironori Hojo

Graduate School of Dentistry, The University of Osaka

10:40~12:00 General Session 6

『Oral and Maxillofacial Region』

Chairs : Haruhisa Watanabe (Hokkaido University, Graduate School of Dental medicine, Pharmacology)
Takashi Izawa (Department of Orthodontics, Graduate School of Medicine, Dentistry and
Pharmaceutical Sciences, Okayama University)

O6-1 Intermittent Parathyroid Hormone Mitigates Cyclophosphamide-Impaired Angiogenic-Osteogenic Patterns in a Delayed Socket Healing Model

Zhiwei Wang¹⁾, Naoki Tsuji²⁾, Atsuhiko Hikita²⁾, Kazuto Hoshi^{1,2)}

¹⁾ Department of Oral Maxillofacial Surgery, The University of Tokyo Hospital,

²⁾ Department of Tissue Engineering, The University of Tokyo Hospital

O6-2 Effect of AhR ligand kynurenine on osteoclast differentiation and orthodontic tooth movement

Gohji Kozaki¹⁾, Takashi Izawa²⁾, Jiamin Chen¹⁾, Yuto Takenaka¹⁾, Misa Taguchi¹⁾,
Yuki Namba³⁾, Mana Hashimoto²⁾, Hiroshi Kamioka²⁾

¹⁾ Department of Orthodontics, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences,
Okayama University,

²⁾ Department of Orthodontics, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences,
Okayama University,

³⁾ Department of Orthodontics, Okayama University Hospital

O6-3 Cellular sources of RANKL including osteoclast differentiation in response to orthodontic force

Satsuki Shidara¹⁾, Masataka Kasahara¹⁾, Toshihide Mizoguchi²⁾

¹⁾ Tokyo Dental College Department of Pharmacology,

²⁾ Tokyo Dental College Oral Health Science Center

O6-4 Defining subcellular synovial responses in TMJ osteoarthritis onset via mechanical stress and articular disk derangement models

Kazuhiro Shibusaka¹⁾, Soichiro Negishi²⁾, Asuka Terashima³⁾, Miki Maemura¹⁾,
Masahiro Hosonuma⁴⁾, Haruhisa Nakano¹⁾, Young Kwan Kim⁵⁾, Yutaka Suzuki⁶⁾,
Hiroyuki Okada⁷⁾, Fumiko Yano⁸⁾

¹⁾ Department of Orthodontics, Graduate School of Dentistry, Showa Medical University,

²⁾ Department of Oral and Maxillofacial Surgery, Graduate School of Dentistry, Showa Medical University,

³⁾ Bone and Cartilage Regenerative Medicine, The University of Tokyo Hospital,

⁴⁾ Department of Oral and Maxillofacial Surgery, Graduate School of Dentistry, Showa Medical University,

⁵⁾ Department of Pharmacology, Graduate School of Pharmacy, Showa Medical University,

⁶⁾ Department of Orthodontics, Graduate School of Dentistry, Showa Medical University,

⁷⁾ Department of Biosystems Science, Institute for Life and Medical Sciences, Kyoto University,

⁸⁾ Department of Computational Biology and Medical Sciences, Graduate School of Frontier Sciences, The
University of Tokyo

O6-5 Lubricin maintains temporomandibular joint homeostasis by regulating synovial inflammation

Soichiro Negishi¹⁾, Kazuhiro Shibusaka²⁾, Miki Maemura¹⁾, Masayuki Tsukasaki³⁾, Seigo Ohba¹⁾, Sakae Tanaka⁴⁾, Taku Saito⁴⁾, Yutaka Suzuki⁵⁾, Hiroyuki Okada⁶⁾, Fumiko Yano⁷⁾

¹⁾ Department of Oral and Maxillofacial Surgery, Graduate School of Dentistry, Showa Medical University,

²⁾ Department of Orthodontics, Graduate School of Dentistry, Showa Medical University,

³⁾ Department of Oral and Maxillofacial Surgery, Graduate School of Dentistry, Showa Medical University,

⁴⁾ Department of Biochemistry, Graduate School of Dentistry, Showa Medical University,

⁵⁾ Department of Oral and Maxillofacial Surgery, Graduate School of Dentistry, Showa Medical University,

⁶⁾ Sensory and Motor System Medicine, Graduate School of Medicine, The University of Tokyo,

⁷⁾ Sensory and Motor System Medicine, Graduate School of Medicine, The University of Tokyo

O6-6 Clinical Study of Dental Implants in Patients Undergoing Perioperative Oral Function Management

Kae Shirata, Hidemi Nakata, Takao Uchiyama, Shuya Oguchi, Sayaka Ono, Keigo Kubota, Kenichi Kumagai, Yusuke Tsuda, Kazuto Hoshi

The university of Tokyo Hospital

O6-7 Hyaluronic Acid-Primed Macrophages Promote Tissue Regeneration in a Mouse Model of Peri-Implantitis

Yumi Miwa, Naoki Tsuji, Atsuhiko Hikita, Kazuto Hoshi

The University of Tokyo

O6-8 Construction of an Organ Culture Mouse Cleft Lip Model as a Platform for Regenerative Medicine Research

Ayane Fukutome¹⁾, Kazuto Hoshi^{1,2)}, Atsuhiko Hikita²⁾

¹⁾ Department of Oral and Maxillofacial Surgery, Dentistry and Orthodontics, The University of Tokyo Graduate School of Medicine,

²⁾ Department of Tissue Engineering, The University of Tokyo Hospital

12:20~13:20 Luncheon Seminar 4

Chair : Masahiko Takahata (Department of Orthopaedic Surgery, Dokkyo Medical University)

Co-Sponsors : Amgen K.K. / Astellas Pharma Inc.

LS4 Critical Role of Anabolic Therapy for Osteoporosis and Treatment Options: Modeling and Remodeling Revisited

Daisuke Inoue

Third Department of Medicine (Endocrinology and Metabolism), Teikyo University Chiba Medical Center

14:10~15:00 General Session 7
『Osteoporosis: Clinical』

Chairs : Ken Iwata (Department of Orthopaedic Surgery, Faculty of Medicine, Kagawa University)
Akifumi Nishida (Department of Radiology, Sasebo City General Hospital)

O7-1 Standing SAD and the A/G ratio show different associations with lower-body muscle mass and motor function

Takashi Nagai^{1,2)}, Yumi Kaneko¹⁾, Koji Ishikawa²⁾, Soji tani²⁾, Koki Tsuchiya²⁾,
Keizo Sakamoto²⁾, Yoshifumi Kudo²⁾

¹⁾Showa Medical University School of Medicine, Department of Rehabilitation Medicine,

²⁾Showa Medical University School of Medicine, Department of Orthopaedic Surgery

O7-2 An Examination of the HBMI as an Indicator of Locomotor Function Decline That Cannot Be Fully Captured by Bone Strength

Yumi Kaneko, Takashi Nagai

school of Medicine, Showa University, Tokyo, Japan

O7-3 Osteoporosis Screening for Patients Undergoing Lower Limb Joint Replacement Surgery

Kazuhiro Ohnaru¹⁾, Teruki Sone²⁾, Shigeru Mitani¹⁾

¹⁾Department of Bone & Joint surgery, Kawasaki Medical School,

²⁾Department of Radiological Technology, Faculty of Health Science and Technology, Kawasaki University of Medical Welfare

O7-4 Current Status and Challenges Regarding Proximal Femoral Fractures at Our Hospital

Chikara Satoh

Masu Memorial Hospital

O7-5 The effect for healing of bisphosphonate-associated atypical femoral fractures by the method of primary iliac bone graft

Naoki Kondo, Yo Watanabe

Division of Orthopedic Surgery, Department of Regenerative and Transplant Medicine, Niigata University Graduate School of Medical and Dental Sciences

15:10~16:20 General Session 8
『Bone and Cartilage Evaluation』

Chairs : Tomoka Hasegawa (Ultrastructure of Hard Tissue, Faculty of Dental Medicine, Hokkaido University)
Manabu Tsukamoto (Department of Orthopaedic Surgery, School of Medicine, University of Occupational and Environmental Health)

O8-1 Alterations in bone matrix orientation in a chronic inflammation model

Aira Matsugaki, Ryota Watanabe, Takayoshi Nakano

The University of Osaka

- O8-2 An analysis of osteophyte formation in a mouse model of knee osteoarthritis**
Asuka Terashima¹⁾, Yasutaka Watanabe²⁾, Yusuke Arino^{2,3)}, Yasuhide Iwanaga⁴⁾,
Yasunori Omata⁵⁾, Sakae Tanaka⁵⁾, Taku Saito⁵⁾
¹⁾ Bone and Cartilage Regenerative Medicine, The University of Tokyo Hospital,
²⁾ Department of Orthopaedic Surgery, Graduate School of Medicine, The University of Tokyo,
³⁾ Orthopaedic Surgery, JCHO Tokyo Yamate Medical Center,
⁴⁾ Center for Disease Biology and Integrative Medicine, Graduate School of Engineering, The University of
Tokyo,
⁵⁾ Sensory and Motor System Medicine, Graduate School of Medicine, The University of Tokyo
- O8-3 Identification of Senescence-Resistant Dedifferentiation Mechanisms and
Transcriptional Modules in Auricular Chondrocytes during Long-Term Serial
Passaging**
Alemujiang Dilinapa¹⁾, Naoki Tsuji²⁾, Tomoaki Sakamoto²⁾, Yu-ying Chu¹⁾,
Kazuto Hoshi¹⁾, Atsuhiko Hikita²⁾
¹⁾ The University of Tokyo,
²⁾ Department of Clinical Stem Cell Biology, Graduate School of Medicine, The University of Tokyo
- O8-4 Differential Responses of Osteocytes and Chondrocytes in the
Osteochondral Complex Under Varying Gravitational Conditions**
Keita Nagira, Hideki Nagashima
Department of Orthopedic Surgery, Faculty of Medicine, Tottori University
- O8-5 Effects of Fixation Duration on Vertebral Body Length in a Rat Model of
Pyogenic Spondylitis**
Genki Tojo, Yuji Kasukawa, Koji Nozaka, Hiroyuki Tsuchie, Yuichi Ono, Michio Hongo,
Naohisa Miyakoshi
Department of Orthopaedic Surgery, Akita University
- O8-6 Investigation of Pretreatment Dependence in the Evaluation of Bone
Quality and Artificial Bone Using Infrared and Raman Spectroscopy**
Mizuki Sakamoto, Kizuku Honjo, Ryo Takeuchi, Hiromi Kimura-Suda
Chitose Institute of Science and Technology
- O8-7 Ultrasonic wave velocity in bone of hyperglycemic rats using a light
scattering technique**
Yohei Sasaki, Taiga wada, Yuta Murakami, Mami Matsukawa
Science Engineering, Doshisha University, Kyotanabe, Kyoto, Japan

Saturday, June 20, 2026 (DAY 3)

Special Conference Room (1F)

8:45~9:15

Board of Councillors