

2nd Bone and Biomaterials workshop

August 7-9, 2016



General information

■ Venue

Hotel Inari

Address: Inarintie 40 99870 Inari FINLAND

Tel: 016-671026

Fax: 016-671-047

■ Local Organization Committee

Petri Lehenkari, Prof., Ph.D., MD

Cancer and Translational Medicine Research Unit, Faculty of Medicine, University of Oulu

Juha Tuukkanen, Prof., Ph.D., DDS

Cancer and Translational Medicine Research Unit, Faculty of Medicine, University of Oulu

■ Oral presentations

The time allocated for oral presentation is 30 min including discussion.

Program on August 7

9:00 - 14:00 Excursion

16:00 - 20:00 **Get together**

Program on August 8

8:45 - 9:00 Opening remarks

Petri Lehenkari and Takao Hanawa

JSPS presentation by prof. **Tadaharu Tsumoto**, Japan Society for the Promotion of Science, JSPS Stockholm Office, Sweden

9:00 - 10:00 **Session 01. Polymers**

Session Chairs: Mikael Skrifvars and Kazuhiko Ishihara

1-01 Biomimetic improvement of orthopedic biomaterials

Kazuhiko Ishihara

Department of Materials Engineering, The University of Tokyo

1-02 Osteogenic Differentiation of Human Mesenchymal Stem cells in a 3D Woven Scaffold

Maria Persson

Product Development, Biomedical Polyethylenes, DSM Biomedical B.V. Netherlands

10:00 - 10:15 Break

10:15 - 11:45 **Session 02. Ceramics**

Session Chairs: Kunio Ishikawa and Mikko Ritala

2-01 Surface modification of Ti using bio-ceramic coating

Takayuki Narushima

Department of Materials Processing, Graduate School of Engineering, Tohoku University

2-02 Manufacturing hydroxyapatite nanocoatings and nanofibers

Jani Holopainen

Department of Inorganic Chemistry, University of Helsinki

2-03 Design of inorganic biomaterials with use of bone mineral measurements

Miho Nakamura

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University

11:15 - 13:00 Lunch

13:00 - 14:30 **Session 03. Bone cells I**

Session Chairs: Miho Nakamura and Teuvo Hentunen

3-01 Gap junctional communication in human osteoclastogenesis

Juha Tuukkanen

Cancer and Translational Medicine Research Unit, Faculty of Medicine, University of Oulu

3-02 Development of a rotary bending device for 3D cell culture

Kosaku Kurata

Faculty of Engineering, Kyushu University

3-03 Interaction between human MSCs and circulating mononuclear cells in bone regeneration

Teuvo Hentunen

Department of Cell Biology and Anatomy, Institute of Biomedicine, University of Turku

14:30 - 14:45 Break

14:45 - 16:15 **Session 04. Regenerative medicine**

Session Chairs: Minna Kellomäki and Akio Kishida

4-01 Reconstruction of periodontal tissue using decellularized biological tissue

Akio Kishida

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University

4-02 Novel blood compatible surfaces for cardiovascular biomaterials

Tetsuji Yamaoka

Department of Biomedical Engineering, National Cerebral and Cardiovascular Center Research Institute

4-03 Artificial bone substitute made by dissolution-precipitation method

Kunio Ishikawa

Department of Biomaterials, Faculty of Dental Science, Kyushu University

17:00 - 20:00 Cruise on Inari lake

20:00 - 22:00 Dinner

Program on August 9

9:00 - 10:30 **Session 05. Metals**

Session Chairs: Michail Gasik and Takayuki Narushima

5-01 Electrochemical surface modification techniques for metallic biomaterials

Yusuke Tsutsumi

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University

5-02 Control of bone adhesion on titanium by surface modification

Masato Ueda

Department of Chemistry and Materials Engineering, Kansai University

5-03 Variety of differentiation of hMSC on nano-pattern fabricated by femto-second laser

Takao Hanawa

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University

10:30 - 10:45 Break

10:45 - 12:15 **Session 06. Bone cells II**

Session Chairs: Juha Tuukkanen and Takayoshi Nakano

6-01 Analysis and control of bone tissue anisotropy

Takayoshi Nakano

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

6-02 Synchrotron micro-computed tomography reveals changes in the morphologies of osteocytes and chondrocytes with osteoarthritis severity

Mikko Finnilä

University of Oulu and University of Eastern Finland

6-03 New orthopaedic simulation test as alternative towards true 1R implementation

Michael Gasik

Materials Processing and Powder Metallurgy, Aalto University, Espoo, Finland

6-04 Case study on the human remains of the Tokugawa Shogun family unearthed from the Kan-eiji temple, Tokyo: Unique physical features on legal wife of the thirteenth shogun.

Mitsuko Nakayama

Oral Development and Orthodontics, Research Unit of Oral Health Sciences, Medical Faculty, University of Oulu, Oulu, Finland

12:15 - 14:00 Lunch

14:00 - 17:00 Brainstorming, free discussions

Chair: Petri Lehenkari