

Symposium I : Biomaterials and Soft Materials and their Application

November 20 (Mon.), 2023

Session Title : Biomaterials and Soft Materials and their Application 1

Time : 10:50 - 12:30, Nov. 20

Room # : 400, 4F

Session Chair : Jongtaek Yeom, Korea Institute of Materials Science
Heungsoo SHIN, Hanyang University

10:50 – 11:20 Keynote K-I1161

Ti-Nb based alloys with bone-like elastic modulus and large superelastic recovery strain

Tae Hyeon Nam, Gyeongsang National University, Korea

11:20 – 11:40 Invited I-I0494

Pulsed anodization to improve the biocompatibility of superelastic NiTi alloy

Naofumi OHTSU, Kitami Institute of Technology, Japan

11:40 – 12:00 Invited I-I0499

Zn-Based Alloying Design for Biodegradable Vascular Scaffold

Nokeun PARK, Yeungnam University, Korea

12:00 – 12:15 O-I0219

Evaluation of biological response to materials using intestinal epithelial cells and macrophages

Tsuyoshi Kimura, Tokyo Medical and Dental University, Japan

12:15 – 12:30 O-I0831

High strength and ductility in a bimodal grain structured biomedical Co-20Cr-15W-10Ni alloy for stent application

Chenglin LI, Wuhan University, China

Session Title : Biomaterials and Soft Materials and their Application 2

Time : 14:00 - 15:30, Nov. 20

Room # : 400, 4F

Session Chair : Tae Hyeon Nam, Gyeongsang National University
Yusuke TSUTSUMI, National Institute For Materials Science

14:00 – 14:30 Keynote K-I0262

Decellularized biological tissues as new biomaterials

Akio KISHIDA, Tokyo Medical and Dental University, Japan

14:30 – 14:50 **Invited** **I-11102**

Smart Polymer Technologies for Global Health

Mitsuhiro EBARA, National Institute for Materials Science, Japan

14:50 – 15:10 **Invited** **I-10505**

Simultaneous 3D Printing Technology of Calcium Deficient Hydroxyapatite of Osteoblast Cells in a Hydrogel Bath System

Hui-Suk YUN, Korea Institute of Materials Science, Korea

15:10 – 15:50 **Keynote** **K-I1127**

Applying multiple surface treatments to regulate bone remodeling of titanium dental implants

Her-Hsiung Huang, National Yang Ming Chiao Tung University, Taiwan

Session Title : Biomaterials and Soft Materials and their Application 3

Time : 16:00 -17:45, Nov. 20

Room # : 400, 4F

Session Chair : Masaya YAMAMOTO, Tohoku University

Akio KISHIDA, Tokyo Medical and Dental University

16:00 – 16:30 **Keynote** **K-I0214**

Biomaterials-based delivery of signaling molecules and cells for tissue regeneration

Heungsoo SHIN, Hanyang University, Korea

16:30 – 16:45 **O-I0435**

Matrix-bound nanovesicles (MBVs) extracted from various decellularized tissues for neuroregenerative effects.

Mako Kobayashi, Tohoku University, Japan

16:45 – 17:00 **O-I0663**

Radially Expanding Mucoadhesive Gelapins for Intestinal Retentive Applications

Durva Naik, Carnegie Mellon University, USA

17:00 – 17:15 **O-I0574**

Variation of Ni ion release behavior of a pulsed-anodized NiTi alloy surface by a voltage setting

Ryota Kawakami, Kitami Institute of Technology, Japan

17:15 – 17:30 **O-I0440**

Engineered biomaterials for control of bone matrix organization via osteocytes-osteoblasts communication

Tadaaki Matsuzaka, Osaka University, Japan

17:30 – 17:45

O-I0644

Development of novel titanium surface with both long-term antibacterial property and hard-tissue compatibility by two-step micro arc oxidation process

Yusuke TSUTSUMI, National Institute for Materials Science, Japan

November 21 (Tue.), 2023

Session Title : Biomaterials and Soft Materials and their Application 4

Time : 10:50 - 12:30, Nov. 21

Room # : 400, 4F

Session Chair : Hyung-Seop Han, Korea Institute of Science and Technology

Alexander Komissarov, Moscow State University

10:50 – 11:20

Keynote

K-I0859

Zn-based biodegradable metals designed for potential usage within bone

Yufeng Zheng, Peking University, China

11:20 – 11:40

Invited

I-I0941

Zn-Based Alloying Design for Biodegradable Vascular Scaffold

Hongtao Yang, Beihang University, China

11:40 – 12:00

Invited

I-I0797

The Application of Biodegradable Zn-Cu-Ca in Temporary Wound Closure Devices

Jeffrey Venezuela, University of Queensland, Australia

12:00 – 12:15

O-I0714

The effect of solute on grain refinement of biodegradable binary Zinc alloys

NEERAJ SRIVASTAVA, Sardar Vallabhbhai National Institute of Technology, Surat, India

12:15 – 12:30

O-I0391

NIR-induced corrosion regulation strategy for biodegradable Mg alloy

You Lv, Huazhong University of Science and Technology, China

Session Title : Biomaterials and Soft Materials and their Application 5

Time : 14:00 - 15:50, Nov. 21

Room # : 400, 4F

Session Chair : Yufeng Zheng, Peking University

Nikolay Redko, Moscow State University

- 14:00 – 14:30** **Keynote** **K-I1091**
Structure, mechanical and corrosion properties bioresorbable magnesium alloys of Mg-Zn-Ga and Mg-Zn-Ca-Mn systems for medical purpose
 Alexander Komissarov, Moscow State University, Russia
- 14:30 – 14:50** **Invited** **I-I0721**
Development of Mg-Zn alloys with low impurities by vacuum distillation and extrusion for excellent corrosion resistance
 Kyosuke UEDA, Tohoku University, Japan
- 14:50 – 15:10** **Invited** **I-I1157**
Bioelectrochemical interfaces: Bridging digital and biological systems
 Jimin Park, Korea Advanced Institute of Science and Technology, Korea
- 15:10 – 15:30** **Invited** **I-I0358**
Mg alloys and processes for temporary biodegradable implants in orthopedic and vascular applications
 Joung Sik Suh, Korea Institute of Materials Science, Korea
- 15:30 – 15:50** **Invited** **I-I0945**
Surface-Roughness-Induced Plasticity in a Biodegradable Zn Alloy
 Luning Wang, University of Science and Technology Beijing, China

Session Title : Biomaterials and Soft Materials and their Application 6

Time : 16:00 -18:05, Nov. 21

Room # : 400, 4F

Session Chair : Alexander Komissarov, Moscow State University

Luning Wang, University of Science and Technology Beijing

- 16:00 – 16:30** **Keynote** **K-I1092**
Biodegradable structures based on magnesium alloys for osteosynthesis in medicine - development and prospects for use
 Nikolay Redko, Moscow State University, Russia
- 16:30 – 16:50** **Invited** **I-I0775**
Two-Dimensional Nanoassemblies from Plasmonic Matryoshka Nanoframes
 Qianqian Shi, Monash University, Australia
- 16:50 – 17:05** **O-I0415**
Fabrication of polypropylene nanoplastics via thermal oxidation reaction for human cells responsiveness studies

Masaya Yamamoto, Tohoku University, Japan

17:05 – 17:20

O-10237

Model Samples of Nano-sized Plastics

Ikuna Kanehara, Shibaura Institute of Technology, Japan

17:20 – 17:35

O-10712

An implantable and wireless drug delivery device for the enhancement of drug efficacy

Sung-Geun Choi, Seoul National University, Korea

17:35 – 17:50

O-10419

Polymorphism control of Glycine crystals by Terahertz wave irradiation

Mana Kusama, Shibaura Institute of Technology, Japan

17:50 – 18:05

O-10236

Pyroelectric effect of grown Triglycine sulfate crystals

Kazuma Iwasaki, Shibaura Institute of Technology, Japan