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WBC 2024

12th World
Biomaterials Congress

May 26-31, 2024 | EXCO, DAEGU, KOREA

Program Book

HOST |



The Korean Society for Biomaterials

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Oral Session 4 (OS4-2)

08:30~09:30 Room 325-CD

Technology for biofabrication 2

Chair Hee-Gyeong Yi | *Dept. of Convergence Biosystems Engineering/ Chonnam National University, Korea, Republic of*Shangjing Xin | *Zhejiang University, China*

Oral 08:30 OS4-2-1
 Presenter 1 **Photocrosslinkable hydrogel microparticle bioink for digital-light-processing 3D bioprinting**
 Shangjing Xin | *Zhejiang University, China*

Oral 08:40 OS4-2-2
 Presenter 2 **3D humanized bioprinted model to study renal fibrosis: aiming at pushing research beyond failed clinical trials**
 Gabriele Addario | *MERLN - Maastricht University, Netherlands*

Oral 08:50 OS4-2-3
 Presenter 3 **Fabrication of urinary-specific tissue-engineered construct by nan nanocellulose embedded hydrogel ink using extrusion-based 3D printing**
 Sulob Roy Chowdhury | *Indian Institute of Science, Bangalore, India*

Oral 09:00 OS4-2-4
 Presenter 4 **One-step Biohybrid Printing of 3D Tissue and Electrode for Uniform Electrical Stimulation to Pancreatic Islets**
 Jihwan Kim | *Pohang University of Science and Technology (POSTECH), Korea, Republic of*

Oral 09:10 OS4-2-5
 Presenter 5 **In-Situ 3D Bioprinting of Blood Vessels**
 Maxime Comtois-Bona | *University of Ottawa Heart Institute, Canada*

Oral Session 4 (OS4-4)

08:30~09:30 Room 324-B

Biomaterials scaffolds 4

Chair Ipsita Roy | *University of Sheffield, United Kingdom*Kenta Homma | *Osaka University, Japan*

Oral 08:30 OS4-4-1
 Presenter 1 **Natural and sustainable biomaterials of bacterial origin and their biomedical applications**
 Ipsita Roy | *University of Sheffield, United Kingdom*

Oral 08:40 OS4-4-2
 Presenter 2 **Fabrication of a visible-light responsive azobenzene-bearing scaffold for user-defined control of integrin-mediated mechanotransduction**
 Kenta Homma | *Osaka University, Japan*

Oral 08:50 OS4-4-3
 Presenter 3 **Tailored gelatin methacrylic cryogels as versatile 3D freeform printing multifunctional approach**
 João Rodrigues | *University of Aveiro, Portugal*

Oral Session 4 (OS4-5)

08:30~09:30 Room 323

Biomaterials for medical applications 4

Chair Gerard Insley | *Uppsala University - Angstrom Institute, Sweden*Yuhe YANG | *Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Hong Kong SAR, China*

Oral 08:30 OS4-5-1
 Presenter 1 **Injectable, self-contained, subaqueously crosslinking laminous adhesives for biophysical-chemical modulation of osteochondral microenvironment**
 Yuhe YANG | *Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Hong Kong SAR, China*

Oral 08:40 OS4-5-2
 Presenter 2 **In Situ Cartilage Tissue Engineering for Osteochondral Repair: A Multiphasic Approach**
 Serena Duchi | *2Aikenhead Centre of Medical Discovery, St Vincent's Hospital Melbourne, Fitzroy, Victoria 3065, Australia. 4Department of Surgery, The University of Melbourne, St Vincent's Hospital Melbourne, Fitzroy, Victoria 3065, Australia, Australia*

Oral 08:50 OS4-5-3
 Presenter 3 **OctaCalcium Phosphate scaffolds modification and functionalisation delivers superior bone healing in-vitro and in vivo.**
 Gerard Insley | *Uppsala University - Angstrom Institute, Sweden*

Oral 09:00 OS4-5-4
 Presenter 4 **Biofabrication of zonal articular cartilage grafts using microtissues primed in altered oxygen environments**
 Nadia Rodriguez | *Trinity College Dublin, Ireland*

Oral 09:10 OS4-5-5
 Presenter 5 **3D printed trabecular porous tantalum spine fusion device: mechanical behavior and in vivo osteointegration**
 Jingzhou Yang | *Shenzhen Dazhou Medical Technology Co., Ltd.; Tsinghua University, China*

Oral Session 4 (OS4-6)

08:30~09:30 Room 322

Biomaterials for hard tissue regeneration

Chair HyunJin Kim | *Inha University, Korea, Republic of*Hun Jin Jeong | *Columbia University, USA*

Oral 08:30 OS4-6-1
 Presenter 1 **Nanopatterning of titanium implants via argon bombardment and its effects on bone formation**
 Andrea Mesa Restrepo | *The Pennsylvania State University, USA*

Oral 08:40 OS4-6-2
 Presenter 2 **A novel suction device containing a collagen based biomaterial increases the osteogenic capacity of a bone graft obtained during surgery**
 Job Blokhuis | *Maastricht University, MERLN, Netherlands*

Oral 08:50 OS4-6-3
 Presenter 3 **A self-growing osteoinductive polymeric framework facilitates endogenous osteogenesis by continuously capturing calcium ions**
 Gonggong Lu | *Sichuan University, China*

Oral 09:00 OS4-6-4
 Presenter 4 **Meniscus-Specific Bioreactor for Avascular Meniscus Healing under Physiological Loadings and Multi-tissue Crosstalk**
 Hun Jin Jeong | *Columbia University, USA*

Oral 09:10 OS4-6-5
 Presenter 5 **Interactions between the location of endothelial cells and the process of bone vascularization**
 Yunju Kang | *Korea national university of transportation, Korea, Republic of*