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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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Concurrent Symposium 3 (S3-2)

16:30~18:00 Room 325-CD

Volumetric tissue printing

Organizer Jinah Jang / Pohang University of Science and Technology, Korea, Republic of

Chair Khoon Lim / University of Sydney, Australia

Jinah Jang / Pohang University of Science and Technology, Korea, Republic of

Keynote Speaker 16:30 **S3-2-1**
Filamented Light (FLight) Biofabrication of Tendons and Muscle
Marcy Zenobi-Wong / ETH Zurich, SwitzerlandInvited Speaker 16:55 **S3-2-2**
Volumetric bioprinting: from the first development to advanced imaging-guided and multi-technology biofabrication
Paulina Nunez Bernal / University Medical Center Utrecht, NetherlandsOral Presenter 17:10 **S3-2-3**
Stable and Homogeneous SPION-infused Photo-Resins for 3D-Printing Magnetic Hydrogels
Ali Mohammed / Imperial College London, United Kingdom17:20 **S3-2-4**
Melt electrowriting and its applications in biofabrication for the generation of synthetic tubular constructs with defined mechanical characteristics
Michael Bartolf-Kopp / Universitätsklinikum Würzburg, Germany17:30 **S3-2-5**
Development of Efficient Photoinitiating Systems for 3D Printing
Pu Xiao / Chinese Academy of Sciences, China17:40 **S3-2-6**
Visible Light-Induced 3D Co-axial Bioprinting of 3D Biomimetic Liver-like Tissue Module with Patterned Vascular Structures for Volumetric Tissue Reconstruction
Daekeun Kim / Pohang University of Science and Technology, Korea, Republic of17:50 **S3-2-7**
Fibrillogenesis-inhibited collagen-based photoclick resins enable facile volumetric biofabrication of multi-cellular tissues
Parth Chansoria / ETH Zurich, Switzerland

Concurrent Symposium 3 (S3-3)

16:30~18:00 Room 324-A

Platform technology for theranostics

Organizer Yong Kyu Lee / KNUT, Korea, Republic of

Chair Youngwook Won / University of North Texas, USA

Hwan Kim / KNUT, Korea, Republic of

Keynote Speaker 16:30 **S3-3-1**
Protein-based cell engineering for targeted cancer therapy
Youngwook Won / University of North Texas, USAInvited Speaker 16:55 **S3-3-2**
A theranostic approach to high tissue parenchymal accumulation of nanoparticles
Jayoung Kim / University of North Texas Health Science Center, USA17:10 **S3-3-3**
Md. Nurunnabi / School of Pharmacy at the University of Texas at El Paso, USA17:25 **S3-3-4**
Theranostic Applications of Polymersomes with Dual Agent Loading in Computed Tomography and Magnetic Resonance Imaging
Jessica Larsen / Clemson University, USA17:40 **S3-3-5**
Nano-adaptor for Antibody Delivery
Jun Wang / South University of Science and Technology, China

Concurrent Symposium 3 (S3-4)

16:30~18:00 Room 324-B

Reproducing Reproductive Organs/Tissues via Tissue Engineering

Organizer Min Wang / Department of Mechanical Engineering, The University of Hong Kong, Hong Kong SAR, China

Chair Min Wang / Department of Mechanical Engineering, The University of Hong Kong, Hong Kong SAR, China

Bin Duan / University of Nebraska Medical Center, University of Nebraska, USA

Keynote Speaker 16:30 **S3-4-1**
Tissue Engineering: Current Perspectives in the Reproductive Field
James J. Yoo / Wake Forest Institute for Regenerative Medicine, Wake Forest University School of Medicine, USAInvited Speaker 16:55 **S3-4-2**
Tissue engineering for difficult infertility cases
Seung-Yup Ku / Seoul University, Korea, Republic ofOral Presenter 17:10 **S3-4-3**
Design and biosynthesis of recombinant humanized collagen toward application: strategies and practices
Hai Lin / Sichuan University, China17:20 **S3-4-4**
Design of hydrogel scaffolds for stable and consistent in vitro complex human skin reconstruction
Kun Liang / A*STAR Skin Research Labs, Singapore17:30 **S3-4-5**
Construction of multifunctional protein consisting of Elastin-like polypeptides for tissue engineering
Mutawakil Al Muqadasi / Tokyo Institute of Technology, Japan17:40 **S3-4-6**
Culture systems matter: Comparing the longevity, regenerative capabilities, and secretome production of mesenchymal stem cells in different systems
Jacob Hodge / University of Kansas Medical Center, USA17:50 **S3-4-7**
Enhancing male infertility treatment through tissue-engineered sperm Production
Rakesh Bhaskar / Yeungnam University, Korea, Republic of

Concurrent Symposium 3 (S3-5)

16:30~18:00 Room 323

Biomaterials for gene delivery applications

Organizer Sun Hwa Kim / Korea Institute of Science and Technology, Korea, Republic of

Chair Hyuk Jin Lee / Ewha Womans University, Korea, Republic of

Seokjoong Kim / GenEdit, USA

Keynote Speaker 16:30 **S3-5-1**
Development of Selective Organ Targeting (SORT) lipid nanoparticles (LNPs) for durable genome correction therapy of genetic lung disease
Daniel J. Siegwart / UT Southwestern Medical Center, USAInvited Speaker 16:55 **S3-5-2**
Enabling genomic medicine with polymeric nanoparticle
Seokjoong Kim / GenEdit, USA17:10 **S3-5-3**
Next-generation drug delivery system based on porous inorganic nanoparticle for advanced mRNA therapy and vaccines
Dal Hee Min / Seoul National University, Korea, Republic of17:25 **S3-5-4**
Suprachoroidal injection of biodegradable nanoparticles enables efficient and durable ocular gene therapy
Jordan J. Green / Johns Hopkins University School of Medicine, USAOral Presenter 17:40 **S3-5-5**
Sustained Release of MAPK14-Targeting siRNA from Polyelectrolyte Complex Hydrogels Mitigates Bony Bar Formation in Growth Plate Injuries
Melissa Krebs / Colorado School of Mines, USA17:50 **S3-5-6**
Comparison of rMSC stem cell seeded dual gene activated scaffold on wound healing of aged rats
Michael B. Keogh / RCSI Bahrain, Bahrain