



20th Anniversary International Symposium of the Korean Society for Biomaterials 2016

Johnson Auditorium (Administration Building)

08:30~
09:00 Registration

09:00~
09:20 Opening Ceremony

Plenary Lecture

Chair: Dong Keun Han (KIST)

PL-01

09:20~
10:00 Driving stem cell behaviours using directive biomaterials for controlled delivery and tissue genesis
Justin J. Cooper-White (*Univ. of Queensland, AUSTRALIA*)

Plenary Lecture

Chair: Dong June Chung (Sungkyunkwan Univ.)

PL-02

10:00~
10:40 *In situ* forming hydrogels; multiplayers in biomaterials-based therapy.
Ki Dong Park (*Ajou Univ.*)

10:40~
11:40 KSBM 20th celebration Session

11:40~
12:00 KSBM General Meeting

12:00~
13:20 Lunch

Keynote Lecture

Chair: Byeongmoon Jeong (Ewha Womans Univ.)

KL-01

13:20~
13:50 PEG-*b*-PLA micelles and PLGA-*b*-PEG-*b*-PLGA sol-gels for multi-drug delivery
Glen S. Kwon (*Univ. of Wisconsin, USA*)

KL-02

13:50~
14:20 Carrier-free delivery of anti-cancer drugs
Yoon Yeo (*Purdue Univ., USA*)

Session 2 : Biomechanics

co-organized with Korean Society of Biomechanics

Chair: Bongju Kim (Seoul Nat'l Univ. Dental Hospital), Jeongseong Kim (Konyang Univ.)

IL-01

14:20~
14:45 Formation and scattering of cellular aggregates
Jennifer H. Shin (*KAIST*)

IL-02

14:45~
15:10 Biomechanical approaches to study musculoskeletal injuries
Choongsoo S. Shin (*Sogang Univ.*)

IL-03

15:10~
15:35 Biomechanical issues in active safety system for crash prevention and occupant protection
Dohyung Lim (*Sejong Univ.*)

15:50~
16:00 Coffee Break

Session 4 : Tissue Engineering and Regeneration Medicine

co-organized with Korean Tissue Engineering and Regenerative Medicine Society

Chair: Sung Won Kim (Catholic Univ. College of Medicine), Hee Seok Yang (Dankook Univ.)

IL-04

16:00~
16:25 Tonsil-derived mesenchymal stem cells for parathyroid regeneration
Inho Jo (*Ewha Womans Univ. College of Medicine*)

IL-05

16:25~
16:50 3D integrated tissue and organ printing system to produce human body parts with structural integrity
Sang Jin Lee (*Wake Forest School of Medicine, USA*)

IL-06

16:50~
17:15 Human nose derived cells (human nasal inferior turbinate derived mesenchymal stem cells, hTMSCs and human nasal septal chondrocytes, hNSCs) for tissue engineering and regenerative medicine
Sung Won Kim (*Catholic Univ. College of Medicine*)

IL-07

17:15~
17:40 Human fetal cartilage-derived progenitor cells (FCPCs) as a source of cell therapy
Byung Hyune Choi (*Inha Univ. College of Medicine*)

18:00~
18:30 Banquet and Awarding Ceremony (Young Scientist Award)

Convention Hall (International Cooperation Building No.8)

08:30~
09:00 Poster Installation

11:40~ 13:00 Poster Presentation Session

Chair: Seung-Woo Cho (Yonsei Univ.)

Session 1 : Student Oral Competition I

Chair: Chaenyung Cha (UNIST), Ja-Hyoung Ryu (UNIST)

SOC-01

Yu Bin Lee (*Hanyang Univ.*)

SOC-08

EunYoung Jeon (*POSTECH*)

SOC-02

Kanghee Cho (*Yonsei Univ.*)

SOC-09

Ho Sang Jung (*KIMS*)

SOC-03

Joon Woo Chon (*Sungkyunkwan Univ.*)

SOC-10

Mahmoud Amr Elnaggar (*KIST*)

13:00~
15:00

SOC-04

Sang Jin Lee (*Kyung Hee Univ.*)

SOC-11

Jennifer Sangjee Lee (*Seoul Nat'l Univ. Hospital*)

SOC-05

Jieung Baek (*KAIST*)

SOC-12

Yoon Jeong (*Seoul Nat'l Univ.*)

SOC-06

Min Sung Kim (*Yonsei Univ.*)

SOC-13

Thai Thanh Hoang Thi (*Ajou Univ.*)

SOC-07

Dong-Hee Kang (*GIST*)

15:00~
15:10 Coffee Break

Session 3 : Korean and Chinese Young Scientist Session

Chair: Hojae Bae (Konkuk Univ.), Hyejung Mok (Konkuk Univ.)

YS-KC-01

In-vitro evaluation of the accuracy of 3D printed dental models
Ji-Man Park (*Seoul Nat'l Univ. Gwanak Dental Hospital*)

YS-KC-02

A novel platelet repelling polyphenolic surface and its micropattern for platelet adhesion detection
Lulu Han (*Dalian Univ. of Technology*)

YS-KC-03

A polymeric solvent-free thermosponge nanoparticle platform for protein drug delivery
Won Il Choi (*KICET*)

YS-KC-04

3D assembled nanofiber scaffolds for bone tissue engineering
Xuetao Shi (*South China Univ. of Technology*)

YS-KC-05

15:10~
16:50 Oxygen-controllable hydrogel matrices for artificial cellular microenvironments
Kyung Min Park (*Incheon Nat'l Univ.*)

YS-KC-06

An instructive nanofiber biomaterial and its application on bone regeneration
Jianglin Wang (*Huazhong Univ. of Science & Technology*)

YS-KC-07

Injury-mediated vascular regeneration requires endothelial ER71/ETV2
Tae-Jin Lee (*Sungkyunkwan Univ.*)

YS-KC-08

Hierarchically aligned fibrin hydrogel for central nerve regeneration
Xiumei Wang (*Tsinghua Univ.*)

YS-KC-09

Ex-vivo 3D tumor microenvironment for the study of cancer cell migration and invasion
Min Hee Park (*Korea Institute of Science and Technology*)

YS-KC-10

A holistic approach to optimal nanomedicine delivery by surface charge modulation
Yucai Wang (*Univ. of Science & Technology of China*)

16:50~
17:00 Coffee Break

Session 5 : Korean and Japanese Young Scientist Session

Chair: Bong Joo Park (Kwangwoon Univ.), Dong Yun Lee (Hanyang Univ.)

YS-KJ-01

Controlling cell fate in a joint knee for cartilage tissue regeneration
Chaekyu Kim (*UNIST*)

YS-KJ-02

Development of fluorescence nanoprobes for over-1000nm near-infrared bioimaging
Masao Kamimura (*Tokyo Univ. of Science*)

YS-KJ-03

A comparative study of the osteogenic potential of tauroursodeoxycholic acid (TUDCA) and rhBMP-2 in a mouse spinal fusion model
Byoung Ju Kim (*CHA Univ.*)

17:00~
18:00

YS-KJ-04

Evaluation of cell rolling phenotype on anti-SSEA-1 antibody immobilized microfluidic channel as a pluripotency marker
Akihisa Otaka (*Nat'l Cerebral and Cardiovascular Center Research Institute*)

YS-KJ-05

Hybrid nanomaterials for targeted drug delivery and photoacoustic theranosis
Min Young Lee (*Samsung Biomedical Research Institute*)

YS-KJ-06

Development of messenger RNA-loaded polyplex nanomicelle for the treatment of central nervous system diseases
Satoshi Uchida (*The Univ. of Tokyo*)



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08:30-
09:40 Registration

Session 6 : Nanobiomaterials for Drug Delivery and Tissue Regeneration

co-organized with Bio-Therapeutics Delivery Society

Chair: Yong-Hee Kim (Hanyang Univ.), Han Chang Kang (Catholic Univ.)

09:40-
10:05 **IL-08**
New chitosan-based thermogels for biomedical applications
Kang Moo Huh (*Chungnam Nat'l Univ.*)

10:05-
10:30 **IL-09**
Biomimetic hybrid nanoparticles for biomedical applications
Hansoo Park (*Chung-Ang Univ.*)

10:30-
10:55 **IL-10**
Acute, sustained suppression of TGF- β for prevention of fibrosis around
silicone implants
Young Bin Choy (*Seoul Nat'l Univ.*)

10:55-
11:20 **IL-11**
Polysialic acid based nanoparticles as drug carrier
Jong Ho Kim (*Kyung Hee Univ.*)

11:40-
11:50 Coffee Break

Plenary Lecture

Chair: Jong-Chul Park (Yonsei Univ. College of Medicine)

11:50-
12:30 **PL-03**
Development of the novel medical adhesive which consists of food additives,
and its medical application
Suong-Hyu Hyon (*Kyoto Institute of Technology, JAPAN*)

12:30-
14:00 Lunch

Keynote Lecture

Chair: Jeong Koo Kim (Inje Univ.), Chun Ho Kim (KIRAMS)

14:00-
14:30 **KL-03**
Design of polymeric vaccine delivery system for efficient mucosal
immunization
Chong-Su Cho (*Seoul Nat'l Univ.*)

14:30-
15:00 **KL-04**
Activatable molecular nanoprobe corresponding to specific stimuli
variations in cancer activity
Seungjoo Haam (*Yonsei Univ.*)

15:00-
15:30 **KL-05**
Magnesium hydroxide derivatives inhibit inflammation and enhance
biocompatibility of biodegradable polymeric implants
Dong Keun Han (*KIST*)

15:30-
16:00 **KL-06**
Calcium phosphate nanoparticles-based systems for gene delivery
Xiangdong Kong (*Zhejiang Sci-Tech Univ., CHINA*)

16:00-
16:10 Coffee Break

Session 9 : Biomedical Optics for Materials and Tissues

co-organized with the Korean Society of Medical and Biological Engineering

Chair: Pilhan Kim (KAIST), Young Bin Choy (Seoul Nat'l Univ.)

16:10-
16:35 **IL-16**
Biophotonic in vivo reading and writing with animal models of cancer for
translational medicine
Euiheon Chung (*GIST*)

16:35-
17:00 **IL-17**
Noninvasive ultrasound and photoacoustic monitoring for tissue
engineering applications
Seung Yun Nam (*Pukyong Nat'l Univ.*)

17:00-
17:25 **IL-18**
Optical imaging techniques and image processing methods for multimodal
tissue imaging
Hongki Yoo (*Hanyang Univ.*)

17:25-
17:50 **IL-19**
Real-time intravital microscopy technique for biomedical research
Pilhan Kim (*KAIST*)

18:10-
18:30 Closing Remark and Awarding Ceremony
(Oral Competition Award & Poster Presentation Session Award)

Convention Hall (International Cooperation Building No.8)

08:30-
09:40 Poster Installation

Session 7 : Stent Research and Biomaterials

co-organized with Korean Stent Research Society

Chair: Il Keun Kwon (Kyung Hee Univ.), Yoon Ki Joung (KIST)

09:40-
10:05 **IL-12**
Recent update of bioabsorbable scaffolds
Weon Kim (*Kyung Hee Univ. College of Medicine*)

10:05-
10:30 **IL-13**
Development of PLLA vascular scaffold with high strength
Soo Hyun Kim (*KIST*)

10:30-
10:55 **IL-14**
Shape memory external support to prevent vein graft failure
Hak-Joon Sung (*Yonsei Univ. College of Medicine*)

10:55-
11:20 **IL-15**
Flexible amorphous microwire for biomedical applications
Sangwon Lee (*SecuFibre Co.,Ltd.*)

11:40-
11:50 Coffee Break

Lunch and Poster Presentation Session

Chair: Seung-Woo Cho (Yonsei Univ.)

Session 8 : Student Oral Competition II

Chair: Yeu-Chun Kim (KAIST), Sun Hee Do (Konkuk Univ.)

SOC-14 Woo Ri Bae (*Hanyang Univ.*) **SOC-20** Tae-Kyung Ryu (*Catholic Univ.*)

SOC-15 S. H. Lee (*Seoul Nat'l Univ.*) **SOC-21** Hana Cho (*Catholic Univ.*)

14:00-
16:00 **SOC-16** Myungkyung Noh (*Seoul Nat'l Univ.*) **SOC-22** L.Palanikumar (*UNIST*)

SOC-17 Dong Hwan Oh (*Ajou Univ.*) **SOC-23** So-Ri Lee (*Catholic Univ. of Daegu*)

SOC-18 Seong Min Kim (*Dankook Univ.*) **SOC-24** Hyun-Ji Park (*Yonsei Univ.*)

SOC-19 Yoshie Arai (*CHA Univ.*) **SOC-25** Yoonmi Hong (*KAIST*)

16:00-
16:10 Coffee Break

Session 10 : Clinical Application of Biomaterials in Orthopedic Field

co-organized with Korean Orthopaedic Research Society

Chair: Jin Woo Lee (Gachon Univ.), Yongsung Hwang (Soonchunhyang Univ.)

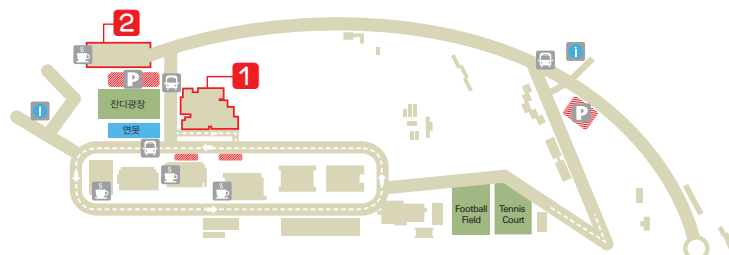
16:10-
16:35 **IL-20**
Bioabsorbable implant in orthopedics
Hyung-Min Ji (*Ajou Univ. Hospital*)

16:35-
17:00 **IL-21**
Implant in hip arthroplasty
Jeong Joon Yoo (*Seoul Nat'l Univ. Hospital*)

17:00-
17:25 **IL-22**
Application of metal 3D printing in orthopaedic implant
Yongsik Kim (*Seoul ST. Mary's Hospital*)

17:25-
17:50 **IL-23**
Biomaterials for spinal surgery
Ki-Hyung Koo (*Dongguk Univ. Ilsan Hospital*)

• Session 8 : Student Oral Competition II (7 minutes)



1 Administration Building

- Johnson Auditorium : Lecture
- Registration Desk
- Restaurant (1st)

2 International Cooperation Building No.8

- Convention Hall : Lecture
- 1, 2 conference room : Poster Presentation Session
- Restaurant (2st) : Banquet