

Symposia - C01

Biomedical Materials

October 15 (Sunday), 2023

Conference Room: 7106, -1# floor

9:00-9:05 Symposium Opening

Chair: Akon Higuchi and Hongxu Lu

9:05-11:45 Session I

Chair: Dokyoung Kim and Hongxu Lu

9:05-9:45 (C01-01)

The design of thermoresponsive surface for proliferation, differentiation and cell sorting of human pluripotent stem cells and their differentiated cells (Keynote)

Akon Higuchi (National Central University, Taiwan, China; Wenzhou Medical University, China; National Center for Child Health and Development, Japan)

9:45-10:10 (C01-02)

Porous silicon nanoparticles for brain-related disease overcoming (Invited)

Dokyoung Kim (Kyung Hee University, Korea)

10:10-10:35 (C01-03)

Engineered hierarchical microdevices enable pre-programmed controlled release for postsurgical and unresectable cancer treatment (Invited)

Hongli Mao (Nanjing Tech University, China)

10:35-10:45 Coffee Break

10:45-11:45 Session II

Chair: Jianmin Yang and Hongli Mao

10:45-11:00 (C01-04)

Self-assembled nanoparticles containing photosensitizer and polycationic brush for synergistic photothermal and photodynamic therapy against periodontitis (Oral)

Enyu Shi (Tianjin Medical University, China)

11:00-11:15 (C01-05)

Amyloid-mediated nanoarchitectonics with biomimetic mineralization of polyetheretherketone for enhanced osseointegration (Oral)

Yanyun Pang (Tianjin Medical University, China)

11:15-11:30 (C01-06)

Electrospinning bionic asymmetric medical materials for tissue repair (Oral)

Jianmin Yang (Fuzhou University, China)

11:30-11:45 (C01-07)

Biomimetic injectable and bilayered hydrogel scaffold based on collagen and chondroitin sulfate for the repair of osteochondral defects (Oral)

Yunquan Zheng (Fuzhou University, China)

11:45-13:30 Lunch

13:30-15:10 Session III

Chair: Yanyan Jiang and Jianbo Qu

13:30-13:55 (C01-08)

Fabrication of sub-50 nm core-shell nanoparticles for cell imaging and targeting therapy (Invited)

Jianbo Qu (China University of Petroleum (East China), China)

13:55-14:20 (C01-09)

Self-healing, injectable, and photoluminescent polysaccharide hydrogel (Invited)

Yongmei Chen (Shaanxi University of Science and Technology, China)

14:20-14:45 (C01-10)

Design of electrobactericidal materials with low voltage and strong electric field and environmental purification technology (Invited)

Shougang Chen (Ocean University of China, China)

14:45-15:10 (C01-11)

Nanofibrous encapsulation device for safe delivery of insulin-producing cells (Invited)

Xi Wang (Peking University Third Hospital, China)

15:10-15:20 Coffee Break

15:20-17:05 Session IV

Chair: Tongling Zhang & Wenpeng Shan

15:20-15:35 (C01-12)

Towards personalized wound repair: an AI-integrated approach for the rational design of wearable mechanically assisted devices (Oral)

Hao Liu (Xi'an Jiaotong University, China)

15:35-15:50 (C01-13)

Carbon dot-based nanoenzymes and their biological effects (Oral)

Yanyan Jiang (Shandong University, China)

15:50-16:05 (C01-14)

Development of bioactive materials for organoid culture (Oral)

Hongxu Lu (Shanghai Institute of Ceramics, China)

16:05-16:20 (C01-15)

Mg-Fe LDH-doped gelatin-chitosan scaffold with aligned microchannels improves anti-inflammation and neuronal regeneration with guided axonal growth for effectively recovering spinal cord injury (Oral)

Tongling Zhang (Shanghai Institute of Ceramics China)

16:20-16:35 (C01-16)

Protein absorption affects bioactivity of fructose-based nanoparticles (Oral)

Mingxia Lu (Shanghai Institute of Ceramics, China)

16:35-16:50 (C01-17)

Needle-free delivery of polymer microspheres as drug carriers (Oral)

Wenpeng Shan (Shanghai Institute of Ceramics, China)

17:00 Dinner

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October 16 (Monday), 2023

9:00-10:45 Session V

Chair: Hua Wei and Mingxia Lu

9:00-9:40 (C01-18)

Surface coating embedding with divalent cations can achieve superior bone-to-implant integration through CNS-skeletal circuit (Keynote)

Kelvin Yeung (The University of Hong Kong, Hong Kong, China)

9:40-10:05 (C01-19)

Temporal, spatial and thermal dynamics of intracellular organelles revealed by novel biomaterials and advanced imaging (Invited)

Peter Su (University of Technology Sydney, Australia)

10:05-10:30 (C01-20)

A trinity biomimetic strategy-inspired nano-vehicles with enhanced anticancer efficiency (Invited)

Hua Wei (University of South China, China)

10:30-10:45 Coffee Break

10:45-12:00 Session VI

Chair: Wenping Ma and Lianxin Shi

10:45-11:00 (C01-21)

Self-pumping wound dressing (Oral)

Lianxin Shi (Technical Institute of Physics and Chemistry, China)

11:00-11:15 (C01-22)

Bioinspired laminated bioceramics with high toughness for bone tissue engineering (Oral)

Jinzhou Huang (Shanghai Institute of Ceramics,

China)

11:15-11:30 (C01-23)

Multicellular bioprinting of biomimetic inks for tendon-to-bone regeneration (Oral)

Lin Du (Shanghai Institute of Ceramics, China)

11:30-11:45 (C01-24)

An ultralong hydroxyapatite nanowire aerogel for rapid hemostasis and wound healing (Oral)

Yi Zheng (Shanghai Institute of Ceramics, China)

11:45-12:00 (C01-25)

A multifunctional hydrogel for simultaneous visible H₂O₂ monitoring and accelerating diabetic wound healing (Oral)

Jimin Huang (Shanghai Institute of Ceramics, China)

12:00-12:15 (C01-26)

Sprayable β -FeSi₂ composite hydrogel for portable skin tumor treatment and wound healing (Oral)

Wenping Ma (Shanghai Institute of Ceramics, China)

12:15 Lunch