

Session 5: Musculoskeletal System

○ Chairs: CHEN Xiao, SHEN Weiliang $\odot\,\mbox{Co-chairs: YIN Zi, RUI Yunfeng}$ $\odot\,\text{Date:}$ January 5-6, 2023



January 5				
Time	Торіс	Speaker		
13:30-13:35	Welcome Speech	Prof. OUYANG Hongwei School of Medicine, Zhejiang University International Campus, Zhejiang University		
Discussion on Clinical Challenges				
13:35-13:55	Construction of Zhejiang Second orthopedics Department characterized by intelligence and precision	Prof. Zhaoming Ye The Second Affiliated Hospital, Zhejiang University School of Medicine		
13:55-14:15	Clinical and basic research topics of knee anterior cruciate ligament regeneration after injury	Prof. Jiakuo Yu Peking University Third Hospital		
14:15-14:35	Design and thinking of intelligent bone repair materials for aging orthopedic diseases	Prof. Xuenong Zou First Affiliated Hospital of Sun Yat-sen University		
14:35-14:55	Nrf2 epigenetic derepresssion by running exercise alleviates osteoporosis	Prof. Qing Jiang Affiliated Drum Tower Hospital, Medical School of Nanjing University		
New Technology Platform Sharing				
15:05-15:25	Development and exploration of public technology platform of Zhejiang University	Dr. Jun Ruan, Deputy Director Equipment Department of Zhejiang University		
15:25-15:45	GPCRDevelopment and exploration of public technology platform of Zhejiang University	Prof. Yan Zhang Zhejiang University School of Basic Medicine		
15:45-16:05	Innovation and practice of core facilities construction	Dr. Sanhua Fang Public technology platform, Zhejiang University School of Medicine		
16:05-16:25	Opportunities and Challenges for the development of scientific research platform in the construction of international model area	Dr. Lingyan Jia International Campus, Zhejiang University		

Advanced Technology In Medicine, Engineering, and Information

16:25-16:45	Brief talk on big data analysis and typical application for smart medicine	Prof. Chunhui Zhao Control Science and Engineering of Zhejiang University
16:45-17:05	Study on fast deep Penetration high throughput microscopy	Prof. Ke Si College of Optical Science and Engineering, Zhejiang University
17:05-17:25	To explore the application of natural biomaterials in the regeneration and repair of musculoskeletal system	Dr. Xianfeng Lin Sir Run Run Shaw Hospital, Zhejiang University School of Medicine
Time	January 6	Speaker
8:50-9:00	Welcome Speech	Prof. OUYANG Hongwei School of Medicine, Zhejiang University International Campus, Zhejiang University
	Advanced Research in tendon/ligament repair and	regeneration
9:00-9:20	Clinical significance of study on osseotendon insertion	Prof. Hongbin Lu Xiangya Hospital, Central South University
9:20-9:40	Tendon tissue regeneration and repair based on deep learning and biomimetic materials	Prof. Yan Liu Peking university school and hospital of stomatology
9:40-10:00	Prevention and treatment of tendon adhesion after tendon injury	Prof. Shen Liu Shanghai Jiaotong University affiliated sixth People's Hospital
10:00-10:20	Progress in regenerative repair of tendon defects	Prof. Tingwu Qin West China Hospital, Sichuan University
10:20-10:40	Identifying Features and Therapeutic Potential of Tendon-Enthesis Stem Cells	Prof. Fei Fang Icahn School of Medicine at Mount Sina
10:40-11:00	The Genetic and Molecular Basis of Carpal Tunnel Syndrome	Prof. Bo Gao The University of Hong Kong
11:00-11:20	Design and preparation of biomimetic gradient scaffold for facial tendine-bone tissue repair	Prof. Qiu Jichuan Shandong University
11:20-11:40	The role of CTRP3 in tendinopathy pathogenesis	Prof. Jion-Hong Kim
	and its therapeutic targeting	Prof. Jun Chen
11:40-12:00	The highroad to domestic artificial ligament	Huashan Hospital Fudan University
	Advanced Research in Bone/Cartilage Repair and F	Regeneration
13:30-13:50	Role of β -Catenin signaling pathway in osteoarthritis and spinal degeneration	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of Sciences
13:30-13:50 13:50-14:10	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of Sciences Prof. Guozhi Xiao Southern University of Science and Technology
13:30-13:50 13:50-14:10 14:10-14:30	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of Sciences Prof. Guozhi Xiao Southern University of Science and Technology Prof. Xiaochun Bai Southern Medical University
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Guozhi Xiao Southern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityProf. Bing Yue Shanghai Jiao Tong University School of Medicine
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Growth of young talents	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of Sciences Prof. Guozhi Xiao Southern University of Science and Technology Prof. Xiaochun Bai Southern Medical University Prof. Bing Yue Shanghai Jiao Tong University School of Medicine
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Growth of young talents Classification and intervention of OA based on joint tissue interaction mechanism	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Guozhi Xiao Southern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityProf. Bing Yue Shanghai Jiao Tong University School of MedicineProf. Dongquan Shi Affiliated Drum Tower Hospital, Medical School of Nanjing University
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30	Role of β-Catenin signaling pathway in osteoarthritis and spinal degenerationMolecular mechanism of intervertebral disc degenerationNew mechanisms for regulating bone developmentSurgical treatment of patellofemoral joint diseaseClassification and intervention of OA based on joint tissue interaction mechanismLine down-to-earth, steady nature - youth PI research growth experience	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Guozhi Xiao Southern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityShanghai Jiao Tong University School of MedicineProf. Dongquan Shi Affiliated Drum Tower Hospital, Medical School of Nanjing University School of Medicine, South University of Science and Technology of China
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30 15:30-15:50	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Classification and intervention of OA based on joint tissue interaction mechanism Line down-to-earth, steady nature - youth PI research growth experience Bone marrow microenvironment and bone aging	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Guozhi Xiao Southern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityShanghai Jiao Tong University School of MedicineProf. Dongquan Shi Medical School of Nanjing UniversityProf. Huiling Cao Department of Biochemistry, School of Medicine, South University of Science and Technology of ChinaProf. Changjun Li Xiangya Hospital, Central South University
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30 15:30-15:50 15:30-16:10	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Classification and intervention of OA based on joint issue interaction mechanism Line down-to-earth, steady nature - youth PI research growth experience Bone marrow microenvironment and bone aging Fundamentals and transformation of biomaterials	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Guozhi Xiao Southern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityShanghai Jiao Tong University School of MedicineProf. Dongquan Shi Affiliated Drum Tower Hospital, Medical School of Medicine, School of Medicine, South University of Science and Technology of ChinaProf. Huiling Cao Department of Biochemistry, School of Medicine, South University of Science and Technology of ChinaProf. Changjun Li Xiangya Hospital, Central South UniversityProf. Yuxiao Lai Shenzhen Institute of Advanced Technology Chinese Academy of Sciences
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30 15:30-15:50 15:30-16:10	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Classification and intervention of OA based on joint tissue interaction mechanism classification and intervention of OA based on joint tissue interaction mechanism bene marrow microenvironment and bone aging Fundamentals and transformation of biomaterials Submission from Participants	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Guozhi Xiao Southern University of Science and TechnologyProf. Xiaochun Bai Southern Medical University School of MedicineProf. Bing Yue Shanghai Jiao Tong University School of MedicineAffiliated Drum Tower Hospital, Medical School of Nanjing UniversityProf. Huiling Cao Department of Biochemistry, School of Medicine, South University of Science and Technology of ChinaProf. Changjun Li Xiangya Hospital, Central South UniversityProf. Yuxiao Lai Shenzhen Institute of Advanced Technology Chinese Academy of Sciences
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30 15:30-15:50 15:30-16:10	Role of β-Catenin signaling pathway in osteoarthritis Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Classification and intervention of OA based on joint tissue interaction mechanism Line down-to-earth, steady nature - youth PI research growth experience Bone marrow microenvironment and bone aging Fundamentals and transformation of biomaterials The tendon microenvironment: Engineered in vitro models to study cellular crosstalk (Invited presentation)	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Guozhi Xiao Southern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityShanghai Jiao Tong University School of MedicineProf. Dongquan Shi Medical School of Nanjing UniversityProf. Huiling Cao Department of Biochemistry, School of Medicine, South University of Science and Technology of ChinaProf. Changjun Li Xiangya Hospital, Central South UniversityProf. Yuxiao Lai Shenzhen Institute of Advanced Technology Chinesee Academy of SciencesProf. Manuel Gomez-Florit 3B's Research Institute on Biomaterials, Biodegradables and Biominetics, University of Minho
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30 15:30-15:50 15:30-16:10 16:10-16:25	Role of β-Catenin signaling pathway in osteoarthritis Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Classification and intervention of OA based on joint tissue interaction mechanism Classification and intervention of OA based on joint tissue interaction mechanism Classification and intervention of OA based on joint research growth experience Bone marrow microenvironment and bone aging Fundamentals and transformation of biomaterials Development Submission from Participants The tendon microenvironment: Engineered in vitro models to study cellular crosstalk (Invited jresentation) Curly nanofiber scaffolds simulating the tendon-bone interface were used to repair large rotator cuff Submission from Participants	Prof. Di Chen Shenzhen Institute of Advanced Technology ChinesesAcademy of SciencesSouthern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityShanghai Jiao Tong University School of MedicineProf. Dongquan Shi Medical School of Nanjing UniversityProf. Huiling Cao Department of Biochemistry, School of Medicine, South University of Science and Technology of ChinaProf. Changjun Li Xiangya Hospital, Central South UniversityProf. Muiling Cao Department of Biochemistry, School of Medicine, South University of Science and ChinaProf. Changjun Li Shenzhen Institute of Advanced Technology Chinese Academy of SciencesProf. Manuel Gomez-Florit 3B's Research Group, I3B's Research Institute on Biomaterials, Biodegradables and Biomimetics, University of MinhoMD, Liren Wang
 13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30 15:30-15:50 15:50-16:10 16:25-16:31 16:31-16:37 	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Cassification and intervention of OA based on joint tissue interaction mechanism Classification and intervention of OA based on joint tissue interaction mechanism Classification and intervention of OA based on joint tissue interaction mechanism Classification and intervention of OA based on joint tissue interaction mechanism Classification and intervention of OA based on joint tissue interaction mechanism Classification and intervention of OA based on joint tissue interaction mechanism South south experience Bone marrow microenvironment and bone aging Fundamentals and transformation of biomaterials The tendon microenvironment: Engineered in vitro models to study cellular crosstalk (Invited juresentation) Curly nanofiber scaffolds simulating the tendon-bone interface were used to repair large rotator curl filtration the activation of AMPK-mTOR axis mitigates tendon stem/progenitor cells senescence and delays tendon stem/progenitor cells senescence and d	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of SciencesSouthern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversitySouthern Medical University School of MedicineProf. Bing Yue Shanghai Jiao Tong University School of MedicineProf. Dongquan Shi Medical School of Nanjing UniversityDepartment of Biochemistry, School of Medicine, South University of Science and Technology of ChinaProf. Changjun Li Xiangya Hospital, Central South UniversityProf. Yuxiao Lai Shenzhen Institute of Advanced Technology Chinesee Academy of SciencesProf. Manuel Gomez-Florit 3B's Research Group, I3B's Research Group, I3B's Research Institute on Biomaterials, Biodegradables and Biomimetics, University of MinhoMD, Liren Wang Shanghai Jiao Tong University Affiliated Sixth People's Hospital, Southagia Hospital, Southeast University
13:30-13:50 13:50-14:10 14:10-14:30 14:30-14:50 14:50-15:10 15:10-15:30 15:30-15:50 15:50-16:10 16:10-16:25 16:10-16:25 16:31-16:37 16:37-16:43	Role of β-Catenin signaling pathway in osteoarthritis and spinal degeneration Molecular mechanism of intervertebral disc degeneration New mechanisms for regulating bone development Surgical treatment of patellofemoral joint disease Classification and intervention of OA based on joint tissue interaction mechanism Line down-to-earth, steady nature - youth PI research growth experience Bone marrow microenvironment and bone aging Fundamentals and transformation of biomaterials The tendon microenvironment: Engineered in vitro models to study cellular crosstalk (Invited joresentation) Curly nanofiber scaffolds simulating the tendon-bone interface were used to repair large rotator cuff injuries with fat infiltration The activation of AMPK-mTOR axis mitigates tendon stern/progenitor cells senescence and delays tendon aging High glucose induced pyrodeath and apoptosis of tendon stern/progenitor cells senescence and delays tendon aging	Prof. Di Chen Shenzhen Institute of Advanced Technology Chinese Academy of Sciences and TechnologySouthern University of Science and TechnologyProf. Xiaochun Bai Southern Medical UniversityShanghai Jiao Tong University School of MedicineAffiliated Drum Tower Hospital, Medical School of Medicine, South University of Science and Department of Biochemistry, School of Medicine, South University of Science and Technology of ChinaProf. Huiling Cao Department of Biochemistry, School of Medicine, South University of Science and UniversityProf. Changjun Li Shenzhen Institute of Advanced Technology Chinesee Academy of SciencesProf. Manuel Gomez-Florit 3B's Research Group, I3Bs - Research Institute on Biomaterials, Biodegradables and Biomaterials, Biodegradables and Biomaterials, Biodegradables and Dr. Guangchun Dai Zhongda Hospital, Southeast UniversityDr. Guangchun Dai Zhongda Hospital, Southeast University

16:43-16:49	Effect of staging sustained-release heparin-BBP on isometric reconstruction of artificial ligaments	HanGao Huashan Hospital, Fudan University
16:49-16:55	Preparation and characterization of 3D-printed PLGA/ Plga-HAP bilayer scaffolds	Luyi Sun Huashan Hospital, Fudan University
16:55-17:01	Clinical follow-up study of rotator cuff tear repair by arthroscopic surgery	Yuting Zhong Huashan Hospital, Fudan University
17:01-17:07	Seeking and identifying time window of antibiotic treatment under in vivo guidance of PbS QDs clustered microspheres based NIR-II fluorescence imaging	Sijia Feng Huashan Hospital, Fudan University
17:07-17:13	NIR-II live imaging study on the degradation pattern of collagen in the mouse model	Huizhu Li Huashan Hospital, Fudan University
17:13-17:19	Biomimetic silk scaffold load with recombinant Klotho protein coating nanospheres	Qingyun Mo Southeast University School of Medicine
17:19-17:25	The role of hardness and macrophage paracrine signals in the tendinogenic differentiation of stem cells	Renwang Sheng Southeast University School of Medicine
17:25-17:31	Effect of biomodified 3D printed scaffolds on the repair of tendon-muscle junction defect	Yuzhi Sun Southeast University School of Medicine
17:31-17:37	Mechanosensitive Piezo1 May Play Crucial Role in Tendon Healing	Lei Lei The Chinese University of Hong Kong
17:37-17:43	Identify the pattern of angiogenesis during skeletal muscle repair in mice with NIR-II live imaging	Mu Chen Huashan Hospital, Fudan University
17:43-17:49	Discovery of Muscle-Tendon Progenitor Subpopulation in Human Myotendinous Junction at Single-Cell Resolution	Ruojin Yan School of Medicine, Zhejiang University



-

IM