BIOFABRICATION 2017

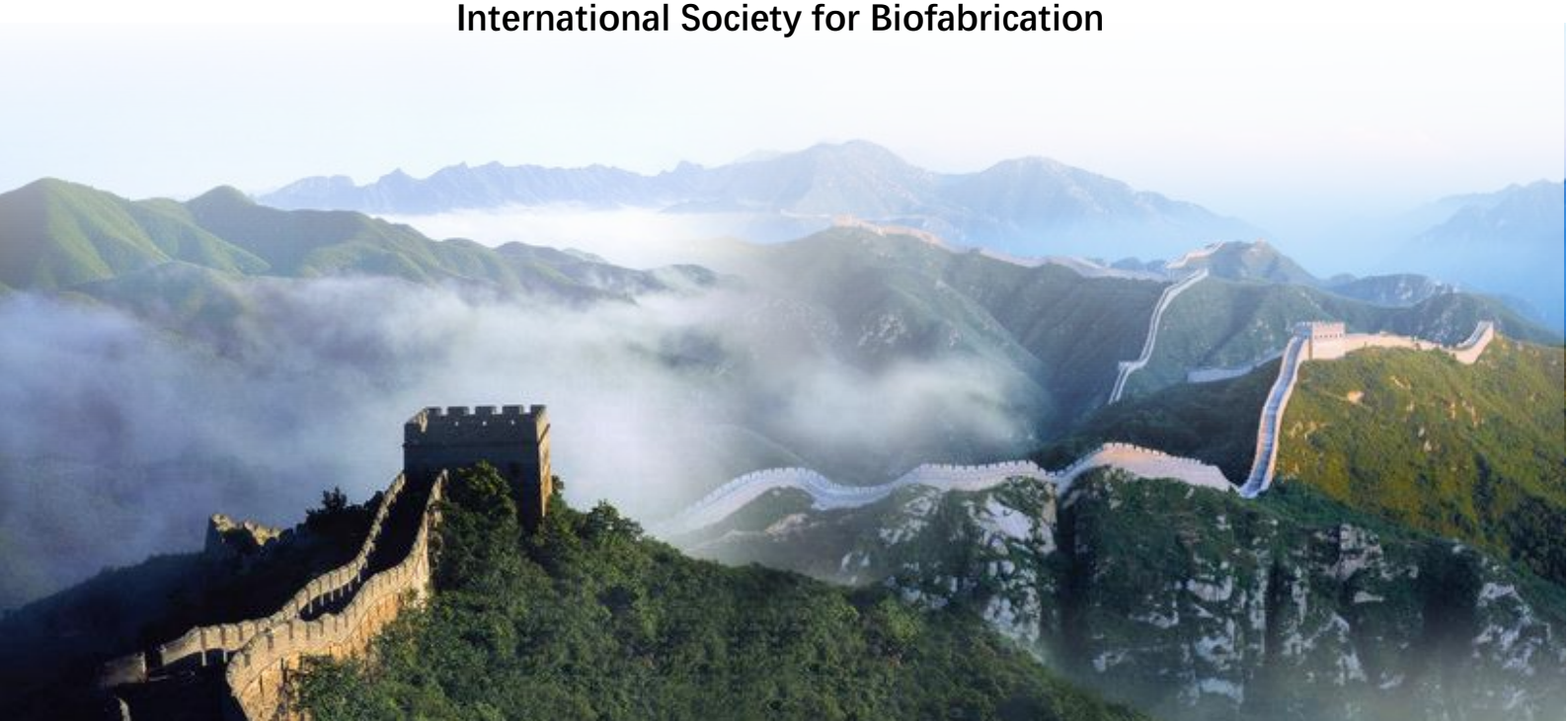
International Conference on Biofabrication

Oct.15 - 18, 2017 | Beijing, China

PROGRAM

Tsinghua University

International Society for Biofabrication



Welcome and Introduction

On behalf of the scientific committee, we would like to invite you to participate in the 2017 International Conference on Biofabrication that will be held in Beijing, China on 15-18 October, 2017. The objective of this conference is to provide a broad communication venue for multi-disciplinary scientists, researchers, industrial and medical sectors to exchange and disseminate the recent scientific discoveries, research, development and emerging applications in the field of Biofabrication, to facilitate international collaboration, and to explore new directions in research and development on Biofabrication. The conference will highlight, but not limited to:

- Bio-3D Printing of cells, proteins, and biologics, including inkjet printing, bioplotting, biological laser printing and other novel bioprinting techniques;
- Biofabrication of in vitro biological models, tissue models, disease pathogeneses models, drug toxicological, discovery and delivery models;
- Biofabrication of cell/tissue/organ-on-a-chips, and in vitro micro-physiological systems;
- Biofabrication for Engineering Living Systems;
- Novel bioinks and biomaterials for Bioprinting;
- Integrated bio-micro-nano fabrication, and bio-additive manufacturing;
- Biofabrication of tissue scaffolds and tissue engineered substitutes;
- Design, modeling and evaluation of the biofabrication processes, biofabricated structures, cell aggregates and tissue ingrowth;
- Biofabrication industry, regularity, trend and future directions.

We look forward to seeing you at the conference in Beijing.

Wei Sun, Ph.D.
Chair, 2017 International Conference on Biofabrication
Tsinghua University, China

Tao Xu, Ph.D.
Co-Chair, 2017 International Conference on Biofabrication
Tsinghua University, China


NSFC


CMES
中国机械工程学会


CSBM
CHINESE SOCIETY FOR BIOMATERIALS


SP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TM
摩方材料
BMF Material


YNAMT
永年激光


十维科技
TEN DIMENSIONS TECHNOLOGY

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Organizers

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Biomanufacturing Center, Department of Mechanical Engineering, Tsinghua University
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Plenary Speakers

Title: Engineered Microvascular Beds in Microfluidic Platforms for Tissue Engineering or Disease Models

Roger D. Kamm, Ph.D., Cecil and Ida Green Distinguished Professor, Dept. of Biological Engineering; Dept. of Mechanical Engineering, Massachusetts Institute of Technology (MIT), Cambridge, USA

A primary objective of Kamm's research has been the application of fundamentals in fluid and solid mechanics to better understand essential biological and physiological phenomena. Past studies have addressed issues in the respiratory, ocular and cardiovascular systems. More recently, his attention has focused on the molecular mechanisms of cellular force sensation, cell population dynamics, and the development of new microfluidic platforms for the study of cell-cell and cell-matrix interactions, especially in the context of metastatic cancer. This cumulative work has led to over 290 refereed publications. Recognition for his contributions is reflected in Kamm's election as Fellow to AIMBE, ASME, BMES, AAAS and the IFMBE. He is also the 2010 recipient of the ASME Lissner Medal and the 2015 recipient of the Huiskes Medal, both for lifetime achievements, and is a member of the National Academy of Medicine.

Title: An Integration of In-vivo Bioreactor, Tissue Engineering and 3D Printing Technologies for Cartilage/Bone Regeneration

Kerong Dai, Ph.D., Life Tenured Professor of Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine; Academician of Chinese Academy of Engineering; Foreign Corresponding Member of France National Academy of Medicine; Director of Innovative Research Center of Medical 3D Printing, Shanghai Jiao Tong University; Director of Engineering Research Center of Digital Medicine and Clinical Translation, Ministry of Education, PRC; Director of Clinical Translational Center of Stem Cell and Regenerative Medicine, Shanghai Jiao Tong University School of Medicine.

Professor Dai has been the President of the International Chinese-Speaking Orthopaedic Society, President of the Asia-Pacific Arthroplasty Society, Vice-president of Interdisciplinary Research Association on Biomaterials and Trustee of AO Foundation, Vice-president of Chinese Orthopaedic Association, etc. Through the interdisciplinary research on medicine, engineering, biology and biomaterials, Prof. Dai developed the new bone implants and techniques, and actively promoted the medical application of 3D printing, as well as the development of basic research and clinical techniques of personalized bone and joint prostheses and bone/cartilage regeneration.

Title: Driving Medical Innovation through Biofabrication

Martha S. Lundberg, Ph.D., Program Director, Tissue Engineering and Regenerative Medicine, Contracting Officer's Representative, Production Assistance for Cellular Therapies, Division of Cardiovascular Sciences, National Heart, Lung, and Blood Institute, USA

Dr. Martha Lundberg is a Program Director in the Advanced Technologies and Surgery Branch at the National Heart, Lung, and Blood Institute (NHLBI). She brings more than 17 years of experience and exemplary management of human cell-based systems for cardiovascular regenerative medicine, smart polymer systems and biodegradable matrices, and technologies for tissue engineered blood vessels, heart valves and cardiac patches. Martha has proven success in building solid, trusting relationships with key stakeholders to stimulate innovative NHLBI investment in over a dozen research programs. She represents the NHLBI and the NIH at Congressional meetings, National and International scientific conferences, and other Trans-governmental activities, such as the Multi-Agency Tissue Engineering Science Working Group and the National Academies' Regenerative Medicine Forum. Martha received her second NIH Director's Award in 2015 for her work with the NIH Tissue Chip Consortium.

Title: 3D Printing Technology and Its Biomedical Applications

Dong-Woo Cho, Ph.D., Nam-Go Chair Professor, Department of Mechanical Engineering; Director, Center for rapid prototyping based 3D tissue/organ printing, Pohang University of Science and Technology, Pohang, KOREA

Prof. Dong-Woo Cho received his Ph.D. in Mechanical Engineering from the University of Wisconsin-Madison in 1986. Ever since, he has been a professor of Department of Mechanical Engineering at the Pohang University of Science and Technology. He is director of the Center for Rapid Prototyping-based 3D Tissue/Organ printing. His research interests include 3D microfabrication based on 3D Printing technology, its application to tissue engineering, and more generally to bio-related fabrication. He has recently focused on tissue/organ printing technology and development of high-performance bio-inks. He has received several prestigious awards in these academic areas. He serves or has served on the editorial boards of several International Journals. Prof. Cho has published over 240 academic papers in various international journals in the field of manufacturing and tissue engineering, and has contributed chapters to ten books and written a textbook related to tissue engineering and organ printing.

Keynote Speakers

Title: Extrusion-based 3D Printing of Biodegradable Polymers

Jason A. Burdick, Ph.D., Professor, Department of Bioengineering, University of Pennsylvania, Philadelphia, USA

Jason A. Burdick, PhD is a Professor of Bioengineering at the University of Pennsylvania. Dr. Burdick's research involves the development of hydrogels for various biological applications and his laboratory is specifically interested in understanding and controlling polymers on a molecular level to control overall macroscopic properties. The applications of his research range from controlling stem cell differentiation through material cues to fabricating scaffolding for regenerative medicine and tissue repair. Jason currently has over 200 peer-reviewed publications and has been awarded a K22 Scholar Development and Career Transition Award through the National Institutes of Health, an Early Career Award through the Coulter Foundation, a National Science Foundation CAREER award, a Packard Fellowship in Science and Engineering, and an American Heart Association Established Investigator Award. He is on the editorial boards of Tissue Engineering, Biomacromolecules, Biofabrication, and Journal of Biomedical Materials Research A, and is an Associate Editor for ACS Biomaterials Science & Engineering.

Title: Rapid 3D BioPrinting of Functional Scaffolds and Micro-physiological Systems

Shaochen Chen, Ph.D., Professor of NanoEngineering, Bioengineering, and Radiology Departments, Co-Director, Biomaterials & Tissue Engineering Center, University of California, San Diego, USA

Dr. Shaochen Chen is a Professor and Vice Chair in the NanoEngineering Department and Professor Affiliate in the Bioengineering Department at the University of California, San Diego (UCSD). He is a founding co-director of the Biomaterials and Tissue Engineering Center at UCSD. Before joining UCSD, Dr. Chen had been a Professor and a Pearlie D. Henderson Centennial Endowed Faculty Fellow in Engineering at the University of Texas at Austin from 2001 to 2010. Between 2008 and 2010, he served as the Program Director for the Nanomanufacturing Program of the National Science Foundation (NSF). Dr. Chen's primary research interests include: biomaterials and 3D bioprinting, stem cell and regenerative medicine, tissue engineering, laser and nanomanufacturing. He has published over 120 papers in top journals and 12 book/book chapters. Among his numerous awards, Dr. Chen received the NSF CAREER award, ONR Young Investigator award, and NIH Edward Nagy New Investigator Award. He also received the Milton C. Shaw Manufacturing Research Medal from ASME. Dr. Chen is a Fellow of AAAS, AIMBE, ASME, SPIE, and ISNM.

Title: Cell patch method

Yong Chen, Ph.D., Ecole Normale Supérieure, CNRS-ENS-UPMC UMR 8640, 75005 Paris, France

Yong Chen received his Ph.D. in Condensed Matter Physics from the University of Montpellier in 1986. After three years at the Scuola Normale Superiorie di Pisa and Peking University, he became a CNRS researcher in 1990 and then moved to the Ecole Normale Supérieure of Paris in 2003. He is now a 1st class CNRS Research Director and a Changjiang scholar of Peking University. He is author or co-author of more than 400 papers in scientific journals of different fields.

Title: 3D Printing of Thermoplastic Polyurethane Based Shape Memory Polymer for Tissue Scaffolding Applications

Yonghua Chen, Ph.D., Associate Professor, Department of Mechanical Engineering, The University of Hong Kong, Hong Kong, China

Dr. Y.H. Chen is currently an associate professor in the Department of Mechanical Engineering, The University of Hong Kong. He has worked intensively on Additive Manufacturing, CAD/CAM, and Robotics in the past 20 years. Dr. Chen has co-authored more than 200 journal and conference papers, two books, and 5 patents. Recently, he has secured more than $8 million to conduct research on biomimetic and soft robotics. Since 1997, Dr. Chen has organized more than 10 international conferences on manufacturing and automation. He has also served as editorial members for 5 international journals. He is now taking on the challenge of 3D printing smart robotics that could be driven by tissue-engineered muscle.

Title: 4-dimensional printing – State of the art and its potential for biofabrication

Chee Kai Chua, Ph.D., Professor, Executive Director, Singapore Centre for 3D Printing, School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore

Professor Chua Chee Kai has been involved in 3D Printing (3DP), previously known as Rapid Prototyping since 1990. On-going research at NTU include development of new systems, materials and techniques in biomedical applications (prostheses, implants, devices and tissue scaffolds) using 3DP.
He is the Co-Editor-in-Chief of the Virtual and Physical Prototyping Journal, published by Taylor and Francis. He is a member of the editorial advisory board of the Rapid Prototyping Journal, the International Journal of Advanced Manufacturing Technology and Journal of Materials Processing Technology. He has won 13 awards and 15 research fundings. For his significant contributions to 3DP, he was given the "Academic Career Award" at the Portugal's International Conference on Virtual and Rapid Prototyping" in 2013, Public Service (Silver) Administration Award by the President of Singapore in 2014 and the Nanyang Alumni Achievement Award by the Minister of Education and President of NTU in 2014.
To date, he has amassed close to S$150 M of research grants, resulting in a number of big centres and labs. He now heads the Singapore Centre for 3D Printing with 46 professors, 98 PhD students, 52 Masters students, 25 research staff and a support team of business development, administrative and technical staff.

Title: Engineering 3D hepatic microenvironment for drug Evaluation with improved predictability

Yanan Du, Ph.D., Associate Professor (Tenured), Department of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China

Dr. Yanan Du received his B.Eng. degree in Chemical Engineering from Tsinghua University and Ph.D. in Bioengineering from National University of Singapore. Dr. Du completed his postdoctoral training at Harvard-MIT Division of Health Science and Technology, MIT and Brigham &Women's hospital, Harvard Medical School. In 2010, he joined the faculty at Department of Biomedical Engineering, School of Medicine, Tsinghua University as principal investigator and obtained tenure in 2016. Dr. Du's research focuses on developing Micro-engineered Cell-based Assays and Therapy Platform for drug screening, disease study and regenerative therapy.

Title: Present and near-future academic and commercial applications of bioprinting

Gabor Forgacs, Ph.D., Professor, George Vineyard Chair in Biophysics, the University of Missouri-Columbia; Chanderna-Stirkey Chair in Theoretical Physics, Clarkson University; Scientific Director, the Shipley Innovation Center, Clarkson University, USA

Dr. Gabor Forgacs is a theoretical physicist turned biophysicist turned bioengineer turned innovator and entrepreneur. His academic affiliations include the George Vineyard Chair in Biophysics at the University of Missouri-Columbia and the Chanderna-Stirkey Chair in Theoretical Physics at Clarkson University, where he is also the Scientific Director of the Shipley Innovation Center. He is the scientific founder of Organovo, Inc. and Modern Meadow, Inc. and serves as the Chief Scientific Officer of the latter. He was trained as a physicist at the Roland Eotvos University, Budapest, Hungary. He also has a degree in biology.

His research interests and contributions span from topics in theoretical physics to physical mechanisms in early embryonic development. He is the author of over 200 scientific publications and 5 books, in particular the co-author of the celebrated text in the field, "Biological Physics of the Developing Embryo" that discusses physical mechanisms that guide embryonic development. He applies these mechanisms to build organ structures using bioprinting, a technology he pioneered. Such structures are already used for drug development and testing. The technology has also been adapted to engineer consumer products of animal origin such as leather and meat in environmentally friendly and ethically conscious manner.

Dr. Forgacs has been recognized by numerous prizes and awards. In particular, he is a member of the National Academy of Innovators and was named as one of the "100 most innovative people in business in 2010" by FastCompany.

Title: Fabrication of Cell-laden Tissue Engineering Scaffolds via Combined Inkjet and E-jet Bioprinting Techniques

Jerry Fuh Ying-Hsi, Ph.D., FASME, FSME, Professor & Co-Director of NUS 3DP Centre, Department of Mechanical Engineering, National University of Singapore, Singapore

Dr. Jerry Fuh is a Professor at the Department of Mechanical Engineering, National University of Singapore (NUS) and the Co-Director of NUS Centre for Additive Manufacturing (AM). He is a Fellow of SME and ASME and a PE from California, USA. He obtained his BS degree in Mechanical Engineering from National Jiaotung University, Taiwan in 1980, an MS in Manufacturing and a PhD in Mechanical Engineering in 1985 and 1992 respectively from the University of California at Los Angeles (UCLA), USA. He also worked in aerospace, automation and CAD/CAM industry in Southern California for five years before joined NUS in 1993. Dr. Fuh has devoted himself to the research of Additive Manufacturing (AM) processes or 3D Printing (3DP) since 1995. He and his

colleagues have established the NUS's AM/3DP research programme focusing on biomedical applications and set up an advanced 3DP laboratory through several research & development grants with industrial collaborations. As a result of his research on AM/3DP, 60 international-refereed papers were published related to the AM/3DP processes and 15 to AM material developments together with 4 book chapters and 12 patents. A book entitled "Laser-Induced Materials and Processes for Rapid Prototyping" was published by Kluwer Academic, MA in 2001.

In 2005, he received the IES Prestigious Engineering Achievement Award for the work on "Development of Rapid Prototyping Technologies for Precision and Biomedical Engineering" from the Institute of Engineers, Singapore (IES) in recognition of outstanding engineering skills which have made notable contributions to progress engineering in Singapore. He has published over 350 technical papers in manufacturing and design, and supervised over 80 graduate students with over 50 are PhD students. He also serves in more than 10 refereed journals as Editor, Associate Editor or Editorial Board Members related to design, manufacturing and AM/3DP.

Title: Bionic, self-folding and shape change soft-devices

David Gracias, Ph.D., Professor, Department of Chemical and Biomolecular Engineering, Department of Materials Science and Engineering, Johns Hopkins University, Baltimore, USA

Prof. Gracias is a Professor at the Johns Hopkins University (JHU) in Baltimore. He received his PhD from the University of California at Berkeley in 1999 and did post-doctoral work at Harvard University, all in Chemistry or related fields.

His independent laboratory, since 2003, has pioneered the development of 3D, integrated micro and nanodevices using a variety of patterning, self-folding and self-assembly approaches. Prof. Gracias has co-authored over 150 technical publications and holds 29 issued US patents. He has delivered over 100 invited talks at leading conferences, workshops and universities.

Prof. Gracias has received a number of national and international awards including the NIH Director's New Innovator Award, Beckman Young Investigator Award, NSF Career Award, DuPont Young Professor Awards, Camille Dreyfus Teacher Scholar Award, Humboldt Fellowship for Experienced Researchers. He is a Fellow of the American Institute for Medical and Biological Engineering (AIMBE).

Title: Advantages of thiol-ene crosslinking to generate platform-bioinks and control the behavior of drug vectors

Jürgen Groll, Ph.D., Professor, Chair for Functional Materials in Medicine and Dentistry, University Hospital Wuerzburg, Germany

Prof. Groll received his Ph.D. from the RWTH Aachen University with summa com laude in 2005. From 2005 to 2009, he worked in industry in the field of functional coatings and biocomposite materials. In parallel, he built up a research group on polymeric biomaterials at the DWI Interactive Materials Research Institute in Aachen. Since 2010 he holds the chair for Functional Materials in Medicine and Dentistry at the University of Würzburg.

His research interest comprises applied polymer chemistry for life sciences, biomimetic scaffolds, immunomodulation, nanobiotechnology, and biofabrication. Within biofabrication, he coordinates the large European integrated project HydroZONES that focuses on the printing of layered constructs for cartilage regeneration. Since 2014, he also holds the ERC consolidator grant Design2Heal that concerns the evaluation of design criteria for immunomodulatory scaffolds.

He is board member of the international society for biofabrication, editorial board member of the journal Biofabrication and advisory board member of the journal Advanced Biosystems. His work has been recognized by several awards such as the Bayer Early Excellence in Science Award 2009, the Reimund-Stadler award of the Division of Macromolecular Chemistry of the German Chemical Society in 2010 and the Unilever Prize of the Polymer Networks Group in 2014.

Title: Fabrication of functional liver on a chip as drug evaluation system

Zhongze Gu, Ph.D., Professor, State Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, China

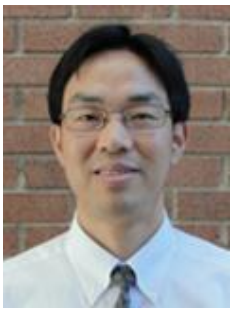
Dr. Zhongze Gu graduated from Southeast University (China) in 1989 and got his M.S. in 1992 there. He went to The University of Tokyo (Japan) in 1994 and obtained his Ph.D. in 1998. Since then, he had been working as a researcher at the Kanagawa Academy of Science and Technology. He then began a project to study the opal photonic crystals and made a lot of excellent work in this field. Since 2003, he began to work at Southeast University as a professor Cheung Kong Scholars of Biomedical Science and Medical Engineering. Now he is the dean of School of Biological Science and Medical Engineering, the director of State Key Laboratory of Bioelectronics. His researches related to bio-inspired intelligent materials, photonic crystal, biosensor and bioelectronics. He has published more than two hundred research papers in international journals and applied more than 70 related patents.

Title: RNA Therapeutics and Anabolic Gene Delivery for Tissue Regeneration

Yu-Chen (Andy) Hu, Ph.D., Program Chair, TERMIS-AP 2016 meeting, Fellow, American Institute for Medical and Biological Engineering (AIMBE), Distinguished Professor and Chairman, Department of Chemical Engineering, National Tsing Hua University, Hsinchu, Taiwan, China.

Dr. Yu-Chen Hu received his BS degree in Chemical Engineering from National Taiwan University (1992) and earned his PhD degree in Chemical Engineering from University of Maryland (USA) in 1999. He worked as a post-doc at the National Institutes of Health from 1999 to 2000 and returned to the Department of Chemical Engineering, National Tsing Hua University, Taiwan, in 2000. Dr. Hu' s main research interests include vaccine development, gene therapy, tissue engineering, cancer therapy and synthetic biology. Dr. Hu's lab has developed the enterovirus 71 (EV71) vaccine based on virus-like particle technology and avian influenza vaccine based on baculovirus vector. Dr. Hu also utilizes baculovirus as a gene vector to deliver various genes encoding growth factor or microRNA into adult stem cells/cell sheet for the modulation of cellular differentiation states and tissue regeneration. His recent animal studies have demonstrated that the baculovirus-engineered cells, after implantation into animals, repair massive defects in cartilage and bone. Dr. Hu's lab also exploits baculovirus-engineered stem cell sheet for the management of myocardial infarction and bone infection. Dr. Hu' s works have paved a new avenue to the use of baculovirus as a novel vector for regenerative medicine. Dr. Hu has won the Asia Research Award (Society of Chemical Engineers, Japan), Outstanding Research Award (Ministry of Science and Technology, 2006, 2014), BEST Biochemical Engineering Achievement Award, Wu Ta-You Memorial Award (NSC), Outstanding Academia-Industry Research Award and Outstanding Young Investigator Award in Taiwan. He is inducted as a fellow of American Institute for Medical and Biological Engineering (AIMBE), and is elected the Member of the Tissue Engineering International & Regenerative Medicine Society-Asia Pacific (TERMIS-AP) Council and the Vice President of Biotechnology and Biochemical Engineering Society of Taiwan. He is the Program Chair of the TERMIS-AP meeting, 2016. He also sits on the editorial board of 10 international journals and currently serves as the associated editor of Current Gene Therapy and deputy editor of Journal of Taiwan Institute of Chemical Engineers.

Title: Bioprinting: Implementation, Process Dynamics, and Process-Induced Cell Injury



Yong Huang, Ph.D., Professor, Dept. of Mechanical and Aerospace Engineering, Biomedical Engineering, and Materials Science and Engineering, University of Florida, Florida, USA

Dr. Yong Huang is a professor of Mechanical and Aerospace Engineering, Biomedical Engineering, and Materials Science and Engineering at the University of Florida, Gainesville, Florida. His research interests are two-fold: 1) processing of biological and engineering materials for healthcare/energy applications; and 2) understanding of material dynamic behaviors during manufacturing and process-induced damage or defect structures. His current research topics include three-dimensional (3D) printing of biological and engineering structures, precision engineering of medical implants and performance evaluation of machined implants, and fabrication of polymeric microspheres / microcapsules / hollow fiber membranes. He served as the Technical Program Chair for the 2010 American Society of Mechanical Engineers International Manufacturing Science and Engineering Conference (ASME MSEC 2010) and the 2012 International Symposium on Flexible Automation (ISFA 2012). He received various awards for his manufacturing research contributions including the ASME Blackall Machine Tool and Gage Award (2005), the Society of Manufacturing Engineers Outstanding Young Manufacturing Engineer Award (2006), the NSF CAREER Award (2008), and the ASME International Symposium on Flexible Automation Young Investigator Award (2008). He received his Ph.D. in Mechanical Engineering from the Georgia Institute of Technology in 2002 and is a Fellow of ASME.

Title: Design and applications of nano-engineered surfaces

Woonbong Hwang, Ph.D., Professor and Head, Dept. of Mechanical Engineering, POSTECH, Pohang, Republic of Korea

Dr. Woonbong Hwang received the B.S. degree in precision mechanical engineering from Hanyang University, Seoul, Korea in 1982 and the M.S. and Ph. D. degrees in mechanical engineering from SUNY at Buffalo, Buffalo, NY in 1985 and 1988, respectively. In 1988, he joined the Department of Mechanical Engineering at Pohang University of Science and Technology (POSTECH), Korea where he is currently a full professor and head of the department. He also leads the NSCS Research Group. In 2012 he was invited by Chinese Government as an expert of '1000 Plan' and is director of Micro-Nano Technology Laboratory at China Academy of machinery Science and Technology (CAM), China. From 2000 to 2001, he was a Visiting Scholar at the Digital Appliance Research Lab. in LG Electronics Inc. From 2009 to 2010, he was a Visiting Professor at the Mechanical Engineering Department of Drexel University, USA. Since 2002, he has helped academic programs in creative engineering including axiomatic design and TRIZ. He has published more than 200 papers in internationally renowned journals and conference proceedings. His research interests include composite materials, RF-integrated mechanical structures and nanomechanics.

Title: Electrolyte-assisted electrospinning to fabricate a free-standing, spatially controlled nanofiber membrane for guided tissue formation

Dong Sung Kim, Ph.D., Department of Mechanical Engineering, Pohang University of Science and Technology (POSTECH), Pohang, Korea

Dr. Dong Sung Kim is an Associate Professor in the Department of Mechanical Engineering at POSTECH, Korea. He received all his B.S., M.S., and Ph.D. (Advisor: the late Prof. Tai Hun Kwon) from POSTECH in 1999, 2001, and 2005, respectively, developing disposable plastic labs-on-a-chip for blood typing. After one year of post-doc in POSTECH, he joined the School of Mechanical Engineering at Chung-Ang University in Korea as a faculty member. After 4 years in Chung-Ang University as a Full-time Lecturer and an Assistant Professor, he came back to POSTECH as a faculty member in 2010. His current research is basically focused on the development of polymer micro/nanofabrication and its utilization in bio-engineering and energy harvesting. He intensively studied on the biomedical fields with micro/nano polymer processing, such as polystyrene micro/nanoengineered cell culture platforms, electrospun nanofiber structures, multifunctional stimuli-responsive structures, and disposable lab on a chip. Prof. Kim has published over 80 peer-reviewed journal papers, registered 27 patents including 3 US patents, and served on the editorial/advisory board of several international journals and symposia.

Title: Biofabrication of Nanoscale Robotic Swimmers

MinJun Kim, Ph.D., Robert C. Womack Endowed Chair Professor in Engineering, Department of Mechanical Engineering, Southern Methodist University, Dallas, USA

Dr. Min Jun Kim is presently the Robert C. Womack Endowed Chair Professor at the Department of Mechanical Engineering of Southern Methodist University. He received his B.S. and M.S. degrees in Mechanical Engineering from Yonsei University in Korea and Texas A&M University, respectively. Dr. Kim completed his Ph.D. degree in Engineering at Brown University, where he held the prestigious Simon Ostrach Fellowship. Following his graduate studies, Dr. Kim was a postdoctoral research fellow at the Rowland Institute in Harvard University. He joined Drexel University in 2006 as an Assistant Professor and was later promoted to Professor of Mechanical Engineering and Mechanics. Since Aug. 2016, he has been the Director of Biological Actuation, Sensing and Transport Laboratory (BASTLab) at the Lyle School of Engineering. Dr. Kim has been exploring biological transport phenomena including cellular/molecular mechanics and engineering in novel nano/microscale architectures to produce new types of nanobiotechology, such as nanopore technology and nano/micro robotics. His notable awards include the National Science Foundation CAREER Award (2008), Drexel Career Development Award (2008), Human Frontier Science Program Young Investigator Award (2009), Army Research Office Young Investigator Award (2010), Alexander von Humboldt Fellowship (2011), KOFST Brain Pool Fellowship (2013), Bionic Engineering Outstanding Contribution Award (2013), Louis & Bessie Stein Fellowship (2014), ISBE Fellow (2014), ASME Fellow (2014), Netexplo Award (2016), Engineer of the Year Award (2016), and IEEE Senior Member (2017).

Title: Biofabrication of Neuromuscular Junction

Hyunjoon (Joon) Kong, Ph.D., Professor, Chemical & Biomolecular Engineering, Interim Director, Bioengineering Graduate Program, University of Illinois at Urbana-Champaign, Urbana-Champaign, USA

Dr. Hyunjoon Kong is a professor in the Department of Chemical and Biomolecular Engineering and a Centennial Scholar at the University of Illinois at Urbana-Champaign (UIUC). He also holds affiliation with the Department of Bioengineering, Center for Biophysics and Computational Biology, and Neuroscience Program. He received his engineering education from the University of Michigan at Ann Arbor (Ph. D. 2001) and performed post-doctoral research at the University of Michigan and Harvard University. He joined the University of Illinois in 2007. During the academic life, he received the Scientist Development Grant from the American Heart Association, the Career Award from NSF, Center for Advanced Study Fellowship, UIUC Engineering Dean's Award for Research Excellence, Centennial Scholar, and Promotion Award. He was recently elected to an AIMBE Fellow. Up to dates, he has published 120 papers in various peer-reviewed journals.

Title: Biomimetic immune cell network in nanofibrous scaffold-based 3D culture system

Jong-Young Kwak, MD/PhD, Professor/Director, Department of Pharmacology & Immune Network Pioneer Research Center, Ajou University School of Medicine, Korea

Dr. Kwak is professor at Department of Pharmacology, Ajou University School of Medicine, Korea. He is currently the Director of Immune-network Pioneer Research Center, which is sponsored as one of the Pioneer Research Center Program by the Korean ministry of Science ICT & Future Planning. He became a vice-president of Korean Society of Biochemistry and Molecular Biology in 2015 and is a Doctor Honoris Causa in Russian Academy of Science since 2012. He completed his doctorate in Medical Biochemistry with neutrophil activation and signal transduction pathways at the Pusan National University, Korea in 1991. After his study of activation of neutrophils in Emory University as a post doctorate, he directed his research to dendritic cell analysis. Current research topics in his laboratory are dendritic cell regulation, immunogenic response of damaged cells, and 3D culture of immune cells.

Title: Design and Biofabrication of Vascular Network for in-vitro Study

Qing Li, Ph.D., Professor, School of Aerospace, Mechanical and Mechatronic Engineering, Australian Research Council Future Fellow, Biomedical Engineering, University of Sydney, Sydney, Australia

Dr. Qing Li obtained his PhD degree from the University of Sydney in 2000. He received postdoc training from Cornell University, NY, USA 2000 - 2001. He was a recipient of an Australian Research Council (ARC) Australian Postdoctoral (APD) Research Fellowship in 2001. Dr. Qing Li was a senior lecturer in School of Engineering, James Cook University, Townsville, Australia from 2004 to 2006. He returned to Sydney by taking up a Sesqui senior lectureship in 2006, where he was promoted to Associate Professor in 2010 and Professor in 2014. Dr. Qing Li is now an ARC Future Fellow (2013-2017) in biomedical engineering at the University of Sydney. His interests are in scaffold tissue engineering, computational modelling, biofabrication, biomechanics and biomaterials.

Title: Scaffold Design and Fabrication for Engineering Complex Tissues

Helen H. Lu, Ph.D., **Professor** of Biomedical Engineering, Columbia University, New York, USA

Dr. Helen H. Lu received her undergraduate and graduate degrees in Bioengineering from the University of Pennsylvania, and is currently the Professor of Biomedical Engineering and the Director of the Biomaterials and Interface Tissue Engineering Laboratory at Columbia. She also received tenure at the Columbia College of Dental Medicine, and is currently a Provost Leadership Fellow at the university. Prof. Lu's research focuses on Orthopaedic Interface Tissue Engineering and the formation of complex tissue systems, with the goal of achieving integrative and functional repair of soft tissue injuries. Additionally, her research group is active in the design of novel biomaterials for orthopedic and dental applications. Her research has been recognized with many awards, including the Early Faculty Career Awards in Translational Research (Phase I and Phase II) from the Wallace H. Coulter Foundation and the Young Investigator Award from the Society for Biomaterials. Dr. Lu was honored with the Presidential Early Career Award for Scientists and Engineers (PECASE) at the White House in 2010, and was elected as a Fellow of the American Institute for Medical and Biological Engineering (AIMBE) in 2011. Her group has published over ninety original research articles, invited reviews and book chapters in biomaterials and tissue engineering, and she is the inventor and co-inventor of more than a dozen patents and applications. Prof. Lu has given over 140 invited lectures at national as well as international conferences and institutions. She serves on the editorial board of leading journals of the fields, including Tissue Engineering, Journal of Biomedical Material Research A, Journal of Orthopaedic Research, Regenerative Biomaterials, Regenerative

Engineering and Translational Medicine, and as Associated Editor for IEEE Transactions on Biomedical Engineering. Prof. Lu's research is supported by the Whitaker Foundation, the Wallace H. Coulter Foundation, the Musculoskeletal Transplant Foundation, the New York State Stem Cell Initiative, the National Football League (NFL) Charities, the Department of Defense and the National Institutes of Health.

Title: A primary study for bioprinting of human liver

Yilei Mao, Ph.D., M.D., Professor, Surgery in the Department of Liver Surgery, Peking Union Medical College (PUMC) Hospital, Chinese Academy of Medical Sciences and PUMC. Deputy Chair of the Chinese Society of Liver Surgeons, Expert Committee Member of National Tumor Standardized Diagnosis and Treatment (Liver Cancer) of Ministry of Health, Committee Members of The Chinese Medical Association Liver Surgery Branch,
Liver Cancer division of Chinese Society of Clinical Oncology. Member of American Society of Nutrition.

Having graduated domestically and residency trained in Australia, Professor Mao received his Ph.D. degree in Lund University, Sweden in 1997 under the supervision of Prof. Stig Bengmark, the member of Academia Europaea and chairman of International Hepato-Pancreato-Bilary Association. Dr. Mao had his post-doctoral training at Harvard Medical School and clinical training at Surgical Oncology of Massachusetts General Hospital. Among numbers of professional awards, Dr. Mao was awarded the Li Foundation Heritage Prize for excellence in creativity in 2001, the first prize of national Excellent Researches of General Surgeons for three times, and the first prize of China National Cancer Center award in 2011. He is the PIs of several research projects supported by China Medical Board of New York, National Natural Science Foundation, and etc. He has published more than 100 articles in domestic and international journals; Dr. Mao presently serves as the editor-in-chief of Hepatobiliary Surgery and Nutrition.

Title: Low-temperature 3D printing technique for fabricating biodegradable composite materials with bioactive elements

Ling Qin, Ph.D., Musculoskeletal Research Laboratory of the Department of Orthopaedics & Traumatology, the Chinese University of Hong Kong, Hong Kong SAR, China

Dr. Qin is Professor and Director of Musculoskeletal Research Laboratory in the Department of Orthopaedics & Traumatology, the Chinese University of Hong Kong (www.ort.cuhk.edu.hk). Dr. Qin also holds joint professorship in Shenzhen Institutes of Advance Technology (SIAT) of Chinese Academy of Sciences (CAS) and serves Director of the Translational Medicine Research & Development Center of Institute of Biomedical & Health Engineering of SIAT (www.siat.cas.cn). He received his B.Ed and M.Ed. in sports medical sciences at the Beijing University of Physical Education in China, and his Ph.D. at the Institute of Experimental Morphology at the German Sports University, Cologne, Germany and postdoc in AO-Research Institute, Davos, Switzerland. Dr. Qin was research scientist in the Department of Trauma & Reconstructive Surgery, University Clinic Rudolf Virchow, Free University Berlin (now known as Charite Medical University), Germany, before joining CUHK in late 1994.

Dr. Qin has been working on advanced diagnosis, prevention and treatment of bone metabolic disorders, especially osteoporosis and osteonecrosis, in collaboration with research and clinical scientists in medicine, geriatrics, rheumatologists, traditional medicine, and biomaterials. Dr. Qin is the past President of the International Chinese Musculoskeletal Research Society (ICMRS) (www.icmrs.net) and member of a number of journal editorial boards, including Editor-in-chief of Journal of Orthopaedic Translation (http://ees.elsevier.com/jot); Associate Editor of Clinical Biomechanics and Chinese Journal of Orthopaedic Surgery; editorial member of a number of international journals, including Journal of Bone and Mineral Research (www.jbmr.org) and International Journal of Sports Medicine (http://www.thieme.de/sportsmed). He holds memberships in several international and national orthopaedic and related research organizations, including collage fellow of American Institute of Medical and Biological Engineering (http://www.aimbe.org) and ICORS International Collage of Fellows/Fellow of International Orthopaedic Research (http://i-cors.org/events). As Principle Investigator, Dr. Qin has received over 30 competitive research grants (including CRF, GRF, ITF, HMRF, NSFC-RGC, and EU-NSFC, 12.5 and 13.5 Key R&D projects of the MOST) and over 30 research awards.

Dr. Qin also holds 9 new invention or new utility patents. Dr. Qin published 9 monographs as editor or associate editor, 5 conference proceedings, 90 book chapters, over 400 journal papers in English, German, and Chinese, including 320 SCI articles published in Nat Med, JBMR, Osteoporosis Int, Bone, A&R, Biomaterials, Acta Biomaterialia, Am J Sports Med, Int J Sports Med, etc. with citation >6500 and a H-index of 44.

Title: Cell fiber technology for in vitro 3D tissue fabrication

Shoji Takeuchi, Ph.D., Professor, Director, Center for International Research on Integrative Biomedical Systems (CIBiS), Institute of Industrial Science (IIS), University of Tokyo, Tokyo, Japan

Dr. Shoji Takeuchi received the B.E, M.E., and Dr. Eng. degrees in mechanical engineering from the University of Tokyo, Tokyo, Japan, in 1995, 1997, and 2000, respectively. He is currently a Professor and Director of the Center for International Research on Integrative Biomedical Systems (CIBiS), Institute of Industrial Science (IIS), University of Tokyo. He has authored more than 150 peer-reviewed publications and filed over 70 patents. He has been recognized with numerous honors including MEXT Young Scientists' Prize in 2008, the JSPS prize in 2010, and ACS Analytical Chemistry Young Innovator Awards in 2015. His current research interests include 3D tissue fabrication, implantable devices, artificial cells/lipid bilayersystems, and biohybrid MEMS.

Title: Oxygen-permeable membranes for aerobic organization and culture of liver tissues

Yasuyuki Sakai, Ph.D., Professor, Department of Chemical System Engineering, Graduate School of Engineering, University of Tokyo, Tokyo, Japan

Dr. Sakai received Ph.D. in chemical engineering from University of Tokyo in 1993 and stated his work at Institute of Industrial Science, University of Tokyo. In 1997-1998, he stayed in University of Rochester, as a visiting scientist investigating 3D culture of bone marrow cells (Prof. David Wu's Lab). In 2003-2008, he worked as an associate professor of Regenerative Medical Engineering Laboratory at the Center for Disease Biology and Integrative Medicine (CDBIM), Graduate School of Medicine, University of Tokyo. He returned to IIS as a professor and then moved to the current position in 2015. During his research carrier, he got several scientific awards such as young investigator award of Society of Chemical Engineers, Japan, publication awards of Society for Bioscience and Bioengineering, Japan and Japanese Society for Alternatives to Animal Experiments. He recently became a fellow of American Institute for Medical and Biological Engineering (AIMBE).

His current research topics are engineering of multi-scale 3D tissues/organs for clinical applications and cell-based pharmacological or toxicological assays. He has been placing particular importance on simultaneous realization of good mass transfers and 3D organization of stem/progenitor cells together with various micro-technologies.

Title: Rapid 3D Fabrication of Tubular Organs through Micro Dip Coating

Will Wenmiao Shu, Ph.D., Professor, Department of Biomedical Engineering, University of Strathclyde, Glasgow, United Kingdom.

Will Wenmiao Shu is the Hay Professor in Biomedical Engineering at the University of Strathclyde (Glasgow). He obtained his PhD at the Engineering Department from University of Cambridge, UK. His research interests cover a range of biomedical engineering topics including 3D biofabrication, biosensors, microsystems and their applications for regenerative medicine. He led the research to demonstrate the first bioprinting of human embryonic stem cells (h-ESCs) and human induced pluripotent stem cells (h-iPSCs), paving the way for their applications on animal-free drug testing and 3D printed organs. He held a visiting position at Stanford University. He is an editorial board member for IOP Biofabrication Journal and serves as a board director of the International Society for Biofabrication (ISBF).

Title: Expansion of Human Mesenchymal Stem Cells (hMSCs) using 3D Printed Scaffolds in Tube-Free Closed Perfusion Bioreactors

Binil Starly, Ph.D., Associate Professor, DIME Laboratory, Edward P. Fitts Department of Industrial and Systems Engineering, North Carolina State University, Raleigh, USA

Dr. Binil Starly is currently an Associate Professor in the Edward P. Fitts Department of Industrial and Systems Engineering at North Carolina State University. He directs the Data Intensive Manufacturing Environment Laboratory (DIME Lab). His laboratory is working on technologies that merge the digital and the physical world towards advancing both discrete and continuous manufacturing processes. His team specifically develops technology related to Virtual Manufacturing Machines, Real-Time Quality Control in 3D Biofabrication and Distributed Manufacturing. He has published more than 40 journal publications in this space with best paper awards from the SME and IIE technical organizations. He has also received the US NSF CAREER award and teaching award recognition for his work.

Title: 3D bioFABRICATION in musculoskeletal tissue engineering

Wojciech Swieszkowski, Ph.D., Habil., WUT Professor. Biomaterials Group, Materials Design Division, Faculty of Materials Science and Engineering, Warsaw University of Technology (WUT), Warsaw, POLAND.

Dr. Wojciech Swieszkowski is a professor in Materials Design Division, Faculty of Materials Science and Engineering, Warsaw University of Technology, POLAND. He is an expert in the field of biofabrication and bioprinting, biomaterials for implants and tissue engineered products, computational modeling and characterization of biomaterials. He leads BioMaterials Group (7 post doctorate and 12 PhD students, www.bio.materials.pl). He has been leader and project manager of 10 international and 15 national projects with total funding > 10M EURO. He plays a role of Faculty Coordinator of ERASMUS Program as well as the Polish-Japan PhD study in Materials Science. He has been an author of more than 100 publications, 16 book chapters and 7 patents, over 1300 citations. He was a laureate of several awards including 1st Prize of Prime Minister of Poland (2001) and Prizes from the Rector of the Warsaw University of Technology for scientific achievement (2011, 2012, 2013, 2014).

Title: Electrospinning hierarchically aligned fibrin nanofiber hydrogel for nerve regeneration

Xiumei Wang, Ph.D., Professor, Institute for Regenerative Medicine and Biomimetic Materials, School of Materials, Science and Engineering, Tsinghua University, Beijing, China.

Dr. Xiumei Wang is currently a professor at the School of Materials Science and Engineering in Tsinghua University, the director of the Institute for Regenerative Medicine and Biomimetic Materials. She obtained her BS degree in materials science & engineering in 2000 and PhD degree in materials physics & chemistry in 2005 from Tsinghua University. After her postdoctoral research work in University of Rochester and Massachusetts Institute of Technology from 2005 to 2008, she joined Tsinghua University in 2008. Her current research focuses on tissue engineering and regenerative medicine, including nerve regeneration, bone regeneration, angiogenesis, and biomaterial-stem cell interactions. She has authored over 100 publications, including peer-reviewed journal papers, book chapters, authored books, and patents relevant to biomaterials. She was honored "the State Natural Science Award 2011" by the State Council of the P.R. China, Chinese Medical Science and Technology Awards by the Ministry of Health and the Ministry of Science and Technology of China, 2012 Distinguished Young Scholar of Tsinghua University, and 2013 New Century Excellent Talents by the Ministry of Education of China.

Title: Development of Pancreatic Islet Organoids from Human Pluripotent Stem Cells

Kaiming Ye, Ph.D., Professor and Chair, Department of Biomedical Engineering, Watson School of Engineering & Applied Science; Director, Center of Biomanufacturing for Regenerative Medicine, Binghamton University, State University of New York (SUNY), USA

Dr. Kaiming Ye is Professor and Department Chair of Biomedical Engineering and Director of Center of Biomanufacturing for Regenerative Medicine at Binghamton University (BU), State University of New York (SUNY). He is one of the top most distinguished and accomplished leaders in the field of Medical and Biological Engineering. He is fellow of AIMBE and senior member of IEEE. His scholarly contributions to the field include the development of the concept of advanced biomanufacturing and his leadership role in promoting and growing the field. He organized and co-organized more than 10 conferences and workshops as well as two WTEC studies including Global Assessment of Stem Cell Science and Engineering and Global Assessment of Advanced Biomanufacturing. He is well-known for his work in bioprinting and human pancreatic organoid development from stem cells. He has invented fluorescent nanosensors for continuous glucose monitoring. His work in advanced biomanufacturing was featured as a cover story of ASEE PRISM. His work in glucose sensors was featured in the Pittsburgh Post-Gazette. He has delivered keynote/plenary speech in numerous international and national conferences. He serves as Associate Editor, and member of Editorial Boards of 13 journals. He is also a highly accomplished administrator and has contributed significantly to national policy-make in science and engineering. During his tenure at NSF, he directed a biomedical engineering program, making funding decisions and implementing post-award management. He was a member of a number of interagency working groups, including the Interagency Workgroup for Neuroscience under the Office of Science and Technology Policy (OSTP), Interagency Modeling and Analysis Workgroup, and Multiagency Tissue Engineering and Regenerative Medicine Workgroup. Finally, he is a highly accomplished educator in biomedical engineering. As chair of Biomedical Engineering Department at BU, he led the growth of the Department.

Title: 3D Bioprinting for Translational Applications

James J. Yoo, M.D., Ph.D., Professor, Wake Forest Institute for Regenerative Medicine, Winston-Salem, North Carolina, USA

Dr. Yoo is a surgeon and researcher. He is currently a Professor, Associate Director and Chief Scientific Officer at the Wake Forest Institute for Regenerative Medicine (WFIRM), and is cross-appointed to the Departments of Urology, Physiology and Pharmacology and Biomedical Engineering. Dr. Yoo's research efforts have been directed toward the clinical translation of tissue engineering technologies and cell-based therapies. Dr. Yoo's background in cell biology and medicine has facilitated the transfer of several cell-based technologies from the bench-top to the bedside. A few notable examples of successful clinical translation include the bladder, urethra, vagina, and muscle cell therapy for incontinence. Dr. Yoo has been a lead scientist in the bioprinting program at WFIRM, and has been instrumental in developing skin bioprinting and integrated tissue and organ printing systems for preclinical and clinical applications.

Title: Key Project of Biomaterials for the National Key Research & Development Program of China

Kai Zhang, Ph.D., Professor, Fellow, American Institute for Medical and Biological Engineering (AIMBE); National Engineering Research Center for Biomaterials, Sichuan University, Chengdu, China.

Kai Zhang, Ph.D. is currently a full professor at the National Engineering Research Center for Biomaterials (NERCB) of Sichuan University, Chengdu, China. Professor Zhang joined NERCB under the national "Recruitment Program of Global Experts (Youth Program)", i.e., 1000 Plan (Youth Program). Prior to his current academic position, Dr. Zhang was working as Senior Engineer and Project Lead at leading global orthopedic and spinal companies in the US for several years, where he and his team successfully commercialized several innovative implantable devices.

Professor Kai Zhang is a Fellow of American Institute of Medical and Biological Engineering. Professor Zhang is also a Council Member of the Chinese Society for Biomaterials, a member of the National Standardization Technical Committee on Surgical Implants and Prosthetic Devices, a member of CFDA Technical Review Advisory Committee, a member of CFDA Technical Advisory Committee for Classification of Medical Devices, a member of the Liaison Committee of the US Society for Biomaterials. Professor Zhang's representative publications include one book (Bioceramics 17), and 16 peer-reviewed journal articles. Professor Zhang is also the inventor of 19 issued US and EU patents. Professor Zhang serves as an Editorial Board Member for "Journal of Biomedical Materials Research: Part B, Applied Biomaterials" and "Bioactive Materials".

Title: Laser Deposition Path Planning for Hybrid Manufacturing

Yunfeng Zhang, Ph.D., Professor, Department of Mechanical Engineering, National University of Singapore, Singapore

Dr. Yunfeng Zhang received his B.Eng. in Mechanical Engineering from Shanghai Jiao Tong University, China in 1985 and Ph.D. from the University of Bath, UK in 1991. He is currently an Associate Professor at the Department of Mechanical Engineering, National University of Singapore. His research interests include (1) operations research, in particular, computational intelligence in design and manufacturing (process planning, scheduling, and their integration, VRP, and multi-objective optimization for UAV mission planning); (2) hybrid manufacturing (3D printing and 5-axis machining) technology for parts repair. He has authored more than 200 publications and received various international awards including the Kayamori Best Paper Award in ICRA 1999 and the IMechE Thatcher Bros Prize in 2011.

Title: Skin Printing

Paulo Jorge Bártolo, Ph.D., Professor, Chair of Advanced Manufacturing Processes, Head of the Manufacturing Group, Director of the Manchester Biomanufacturing Centre, School of Mechanical, Aerospace and Civil Engineering, University of Manchester, Manchester Institute of Biotechnology, University of Manchester, UK

Dr. Paulo Bartolo is a Professor of Advanced Manufacturing and Head of the Manufacturing group, Director of the Manchester Biomanufacturing centre, member of the Management Board of the EPSRC and MRC CDT in Regenerative Medicine, and Champion of the Biomedical Devices and Systems core area at the Sir Henry Royce Institute. He is Visiting Professor at Nanyang University (Singapore), Professor of Biomaterials (Cathedra UNESCO) at the University of Habana (Cuba), Collaborator Professor of the Advanced Manufacturing Group at the Tecnologico de Monterrey (Mexico) and CIAUD at the University of Lisbon (Portugal). Paulo Bartolo is also Fellow of CIRP (The International Academy of Production Engineering), Chairman of the CIRP Scientific Technical Committee on Electro-Physical and Chemical Processes (STC E) and served as Vice-Chairman of the CIRP Collaborative Working Group on Biomanufacturing (2010-2012). He is member of the editorial boards for several international journals and is Editor-in-chief of Biomanufacturing Reviews (Springer) and Virtual and Physical Prototyping (Taylor&Francis).

Program at a Glance

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Sunday, October 15, 2017	
10:00-22:00	**Registration**
14:30-17:00	**ISBF &BF Board Meetings** (Board Room)

Monday, October 16, 2017				
07:00-08:30	**Registration**			
08:30-10:15	**Open Ceremony and Plenary Talks 1&2** (Room Aud)			
10:15-10:35	**Group Photo/Tea Break/Poster/Exhibition**			
10:35-12:30	**Session 01** (Room Aud) Novel Bioinks and Biomaterials for Biofabrication - 1	**Session 02** (Room FR8A) Bio-3D Printing of cells and novel bioprinting techniques - 1	**Session 03** (Room FR8B) Biofabrication of in vitro biological models - 1	**Session 04** (Room FR6) Biofabrication of tissue scaffolds and tissue engineered substitutes - 1
12:30-13:30	**Lunch** (Room Aud)			
	Forum for Yong Scientists in Biofabrication (Room FR8A)			
13:30-15:25	**Session 05** (Room Aud) Novel Bioinks and Biomaterials for Biofabrication - 2	**Session 06** (Room FR8A) Bio-3D Printing of cells and novel bioprinting techniques - 2	**Session 07** (Room FR8B) Biofabrication of in vitro biological models - 2	**Session 08** (Room FR6) Biofabrication of tissue scaffolds and tissue engineered substitutes - 2
15:25-15:45	**Tea Break/Poster/Exhibition**			
15:45-17:40	**Session 09** (Room Aud) Novel Bioinks and Biomaterials for Biofabrication – 3	**Session 10** (Room FR8A) Bio-3D Printing of cells and novel bioprinting techniques - 3	**Session 11** (Room FR8B) Biofabrication of in vitro biological models - 3	**Session 12** (Room FR6) Biofabrication of tissue scaffolds and tissue engineered substitutes - 3
17:40-18:40	**ISBF General Assembly** (Room Aud)			

Tuesday, October 17, 2017					
08:00-08:30	**Registration**				
08:30-10:00	**Plenary Talks 3&4** (Room Aud)				
10:00-10:20	**Tea Break/Poster/Exhibition**				
10:20-12:30	**Session 13** (Room Aud) Design, modeling and evaluation of the biofabrication processes, structures, cell aggregates and tissue ingrowth - 1	**Session 14** (Room FR8A) Bio-3D Printing of cells and novel bioprinting techniques - 4	**Session 15** (Room FR8B) Biofabrication of cell/tissue/organ-on-a-chips	**Session 16** (Room FR6) Biofabrication of tissue scaffolds and tissue engineered substitutes - 4	
12:30-13:30	**Lunch** (Ballroom)				
13:30-15:40	**Session 17** (Room Aud) Design, modeling and evaluation of the biofabrication processes, structures, cell aggregates and tissue ingrowth - 2	**Session 18** (Room FR8A) Bio-3D Printing of cells and novel bioprinting techniques - 5	**Session 19** (Room FR8B) Biofabrication for Translational Medicine - 1	**Session 20** (Room FR6) Biofabrication of tissue scaffolds and tissue engineered substitutes - 5	**Rapid Fire Session 1** (Board Room)
15:40-16:00	**Tea Break/Poster/Exhibition**				
16:00-18:25	**Session 21** (Room Aud) Design, modeling and evaluation of the biofabrication processes, structures, cell aggregates and tissue ingrowth - 3	**Session 22** (Room FR8A) Bio-3D Printing of cells and novel bioprinting techniques - 6	**Session 23** (Room FR8B) Biofabrication for Translational Medicine - 2	**Session 24** (Room FR6) Biofabrication of tissue scaffolds and tissue engineered substitutes - 6	**Rapid Fire Session 2** (Board Room)

Wednesday, October 18, 2017					
08:00-08:30	**Registration**				
08:30-11:10	**Session 25** (Room Aud) Novel Bioinks and Biomaterials for Biofabrication - 4	**Session 26** (Room FR8A) Integrated bio-micro-nano fabrication, and bio-additive manufacturing	**Session 27** (Room FR8B) Biofabrication of in vitro biological models - 4	**Session 28** (Room FR6) Biofabrication of tissue scaffolds and tissue engineered substitutes – 7	**Session 29** (Board Room) **Voice from Biofabrication Industry**
11:10-11:25	**Tea Break/Poster/Exhibition**				
11:25-11:55	**Senior Award Presentation** (Room Aud)				
11:55-12:25	**Junior Award and Closing Ceremony** (Room Aud)				
12:25-13:25	**Lunch** (Room Aud)				
13:50-18:00	**Tsinghua Tour***				
18:00-20:30	**Conference Banquet**				

***Tsinghua tour on 18th afternoon:**

13:30	Departure from west parking lot, Beijing International Hotel
14:45	Arrive at Tsinghua University
14:45-17:30*	Lab tour, Lee Shaw Kee Science and Technology Building, 1 hour
	Historic interests, Tsinghua University, 1 hour
17:30	Departure from Tsinghua University
18:00	Arrive at Liaoning International Hotel
21:00	Return from Liaoning International Hotel
22:00	Arrive at west parking lot, Beijing International Hotel

* Considering laboratory capacity and activity time, guests over the limited number (220) will only have historic interests visiting for 1.5 hours.

Banquet Address：
3rd floor, Liaoning International Hotel, No.2 A North Fourth Ring Road West, Haidian District, Beijing
会议晚宴地址：:北京辽宁大厦酒店 3 层，北京市海淀区北四环西路甲 2 号

Technical Program

October 16, 2017

08:30-08:45 Open Ceremony
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Chair: Wei Sun

08:45-10:15 Plenary Talks
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Chair: Tao Xu

08:45-09:30 **Plenary Talk 1**
Engineered Microvascular Beds in Microfluidic Platforms for Tissue Engineering or Disease Models; Roger Dale Kamm, Massachusetts Institute of Technology, USA

09:30-10:15 **Plenary Talk 2**
An Integration of In-vivo Bioreactor, Tissue Engineering and 3D Printing Technologies for Cartilage/Bone Regeneration; Kerong Dai, School of Medicine, Shanghai Jiao Tong University, Shanghai, China

10:15-10:35 Group Photo
(Grand Hall, 3rd floor, Beijing International Hotel Convention Center)
Tea Break/Poster/Exhibition
(2nd floor, Beijing International Hotel Convention Center)

10:35-12:30 Session 01 Novel Bioinks and Biomaterials for Biofabrication – 1
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Jason A. Burdick & Giovanni Vozzi

10:35-10:55 **Invited**
S0101-**Extrusion-based 3D Printing of Biodegradable Polymers;** Jason A. Burdick, University of Pennsylvania, USA

10:55-11:15 **Invited**
S0102-**Demineralised bone tissue as a novel biomaterial for in vitro bone model;** Giovanni Vozzi, University of Pisa, Italy

11:15-11:30
S0103-**3D Printing of VEGF loaded heparin/poly-L-lysine nanoparticle immobilized HAGelMA Hydrogels to promote vascularization for tissue engineering;** Zhifang Wang, South China University of Technology, China

11:30-11:45
S0104-**Poly (L-lactic acid) patch loaded with adipose-derived mesenchymal stromal/stem cells: the healing effect in a swine model tracheal resection;** Bruna Manzini, University of Campinas, Brazil

11:45-12:00
S0105-**Novel silk bio-ink; 3D digital light processing printing for advanced tissue engineering;** Soon Hee Kim, Hallym University, S. Korea

12:00-12:15
S0106-**A lotus root-like biomimetic material for tissue regeneration and substance adsorption;** Chun Feng, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

12:15-12:30
S0107-**Characterization of methylcellulose as internally stabilizing component for bioprinted hydrogels;** D. Kilian, Technische Universität Dresden, Germany

10:35-12:30 Session 02 Bio-3D Printing of cells and novel bioprinting techniques - 1
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Shoji Takeuchi & Yong Chen

10:35-10:55 **Invited**
S0201-**Cell fiber technology for in vitro 3D tissue fabrication;** Shoji Takeuchi, University of Tokyo, Japan

10:55-11:15 **Invited**
S0202-**Cell patch method;** Yong Chen, Ecole Normale Supérieure, France

11:15-11:30
S0203-**Converging MEW and extrusion-based bioprinting enables further mimicking of complex tissue architectures;** Mylène de Ruijter, Utrecht University, Netherlands

11:30-11:45
S0204-**Melt Electrospinning Writing of Sinusoidal Scaffolds for Tendon Tissue Engineering;** Almoatazbellah Youssef, University Hospital Würzburg, Germany

11:45-12:00:
S0205-**Inkjet printing of high concentration hydroxyapatite for bone tissue scaffolds;** Boqing Zhang, Sichuan University, China

12:00-12:15
S0206-**Multimaterial Bioprinting for Fabricating 3D Heterogeneous Tissue Constructs;** Songwan Jin, Korea Polytechnic University, S. Korea

12:15-12:30
S0207-**A newly developed hybrid cell printing & culturing system for cotext-like tissue printing;** Fang Ao, Xi'an Jiaotong University, China

10:35-12:30 Session 03 Biofabrication of in vitro biological models - 1
(Function Room 8B, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Gabor Forgacs & Yu Shrike Zhang

10:35-10:55 **Invited**
S0301- **Present and near-future academic and commercial applications of bioprinting;** Gabor Forgacs, University of Missouri-Columbia, USA

10:55-11:15 **Invited**
S0302-**Rapid Multi-Material Extrusion Bioprinting for Tissue Fabrication;** Yu Shrike Zhang, Harvard Medical School, USA

11:15-11:30
S0303-**3D bioprinting techniques for building model tissues that mimic the tumor microenvironment;** Adrian Neagu, Victor Babes University of Medicine and Pharmacy, Romania

11:30-11:45
S0304-**3D Tissue Formation by Stacking Detachable Cell Sheets formed on Nanofiber Mesh;** Byungjun Lee, Seoul National University, S. Korea

11:45-12:00:
S0305-**Bioprinting of HL-1 cells in collagen for cardiac tissue model;** Carlos Mota, Maastricht University, Netherlands

12:00-12:15
S0306-**Bioengineered bile ducts from murine liver organoids possess key cholangiocyte functions;** Chen Chen, Utrecht University, Netherlands

12:15-12:30
S0307-**Study on the regulation of BMSCs osteogenic differentiation by decellularized extracellular matrix;** Chenyuan Gao, Beijing University of Chemical Technology, China

10:35-12:30 Session 04 Biofabrication of tissue scaffolds and tissue engineered substitutes - 1
(Function Room 6, 1st floor, Beijing International Hotel Convention Center)
Co-Chair: Shaochen Chen & Binil Starly

10:35-10:55 **Invited**
S0401-**Rapid 3D BioPrinting of Functional Scaffolds and Micro-physiological Systems;** Shaochen Chen, University of California, USA

10:55-11:15 **Invited**
S0402-**Expansion of Human Mesenchymal Stem Cells (hMSCs) using 3D Printed Scaffolds in Tube-Free Closed Perfusion Bioreactors;** Binil Starly, North Carolina State University, USA

11:15-11:30
S0403-**Mechanical and biochemical stimulation of a 3D multi-layered scaffolds for tendon tissue engineering;** Chiara Rinoldi, Warsaw University of Technology, Poland

11:30-11:45
S0404-**3D-engineered micro-porous scaffold;** Jie Tao, Sichuan University, China

11:45-12:00:
S0405-**Bone regeneration capacity of β-TCP scaffolds with controllable microstructure in calvarial defects;** Jingjing Diao, South China University of Technology, China

12:00-12:15
S0406-**3D-Bioplotted Scaffold Design Affects the Extracellular Matrix Organization and Compressive Elastic Modulus of In Vivo Engineered Tissue;** Rohan A. Shirwaiker, North Carolina State University, USA

12:15-12:30
S0407-**Bioengineering of cerebral cortex-like tissue mimics by acoustic spheroid assembly;** Pu Chen, Wuhan University, China

12:30-13:30 Lunch
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)

12:30-13:30 Forum for Yong Scientists in Biofabrication
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)

13:30-15:25 Session 05 Novel Bioinks and Biomaterials for Biofabrication - 2
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Jürgen Groll & Marcy Zenobi-Wong

13:30-13:50 **Invited**
S0501-**Advantages of thiol-ene crosslinking to generate platform-bioinks and control the behavior of drug vectors;** Jürgen Groll, University Hospital Wuerzburg, Germany

13:50-14:10 **Invited**
S0502-**Biological and Mechanical Augmentation of Bioinks;** Marcy Zenobi-Wong, ETH Zürich, Switzerland

14:10-14:25
S0503-**3D Bioprinting A Viscoelasticity-responsible Hydrosoluble Chitosan/Polyvinyl Alcohol Bioink for Cartilage Engineering Applications;** Jun Fu, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science, China

14:25-14:40
S0504-**Development of Esophagus Decellularized Extracellular Matrix (EdECM) Bioink Loaded Biodegradable Stent by 3D printing Technology: Focusing on Radiation Esophagitis;** Dong-Heon Ha, Pohang University of Science and Technology, S. Korea

14:40-14:55
S0505-**Injectable tissue-adhesive hydrogels with in-situ forming and reinforced mechanical capability for osteochondral defect repair;** Feifei Zhou, Zhejiang University, China

14:55-15:10
S0506-**An Enzymatically Crosslinked Nanofibril Bioink for Tissue Engineering Applications;** Philipp Fisch, ETH Zürich, Switzerland

15:10-15:25
S0507-**Alginate-based Bio-ink for Multiple-droplet Piezoelectric Cell Printing;** Linian Zhou, Xi'an Jiaotong University, China

13:30-15:25 Session 06 Bio-3D Printing of cells and novel bioprinting techniques - 2
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Tim Woodfield & Wojciech Swieszkowski

13:30-13:50 **Invited**
S0601-**3D Bioassembly of Cancer Cell Laden Microspheres for Biofabrication and in vitro Screening of 3D Tumor Models;** Tim Woodfield, University of Otago, New Zealand

13:50-14:10 **Invited**
S0602-**3D biofabrication in musculoskeletal tissue engineering;** Wojciech Swieszkowski, Warsaw University of Technology, Poland

14;10-14;25
S0603-**Geometric control of vascular networks is regulated by tensile forces in 3D bioprinted tissue;** Guangliang Zhang, Wake Forest Institute for Regenerative Medicine, USA

14:25-14:40
S0604-**Lithography-based bio-ceramics manufacturing method and its application in medical implants;** Hui Ren, Xi'an Jiaotong University, China

14;40-14:55
S0605-**Twin piezo dispensing tools for precise gradient printing of zonal cartilage structures;** Jian He, GeSiM – Gesellschaft fuer Silizium-Mikrosysteme mbH, Germany

14:55-15:10
S0606-**Developing alginate hydrogel encapsulation system of induced pluripotent stem cells with a co-axial nozzle;** Ikki Horiguchi, University of Tokyo, Japan

15:10-15:25
S0607-**The high speed precision inkjet of high viscosity hydrogels research;** Huixuan Zhu, Shenyang Institute of Automation Chinese Academy of Sciences, China

13:30-15:25 Session 07 Biofabrication of in vitro biological models - 2
(Function Room 8B, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Thomas Boland & Lih-Sheng Turng

13:30-13:50 **Invited**
S0701-**Integration of Inkjet Printed Microvasculature into Host Tissues;** Thomas Boland, The University of Texas at El Paso, USA

13:50-14:10 **Invited**
S0702-**Fabrication of Small Diameter Vascular Scaffolds: Mimicking the Structure and Properties of Native Blood Vessels;** Lih-Sheng Turng, University of Wisconsin–Madison, USA

14;10-14;25
S0703-**A Novel in Vitro Model of Human Urothelium with Barrier Function Differentiated from Urine-Derived Stem Cells;** Yuanyuan Zhang, Wake Forest University School of Medicine, USA

14:25-14:40
S0704-**Single step fabrication of encapsulated HepaRG organoids for drug and toxicity testing;** Dirk Jan Cornelissen, University of Strathclyde, UK

14;40-14:55
S0705-**Patient-derived Kidney Organoids of Urinary-Derived Stem Cells for Studying Diabetic Nephropathy;** Yuanyuan Zhang, Wake Forest Institute for Regenerative Medicine, USA

14:55-15:10
S0706-**Comparative study of angiogenic potential of spheroids of umbilical cord and adipose-derived MMSC within fibrin gel;** Gorkun A.A., FSBSI Institute of general pathology and pathophysiology, Russia

15:10-15:25
S0707-**Cross-linking of decellularized bovine pericardium tool for programming structural and functional properties of xenoprostheses;** Grebenik E.A., Sechenov First Moscow State Medical University, Russia

13:30-15:20 Session 08 Biofabrication of tissue scaffolds and tissue engineered substitutes - 2
(Function Room 6, 1st floor, Beijing International Hotel Convention Center)
Co-Chair: Helen H. Lu & Bin Li

13:30-13:50 **Invited**
S0801-**Scaffold Design and Fabrication for Engineering Complex Tissues;** Helen H. Lu, Columbia University, USA

13:50-14:05
S0802-**Thermo-responsive elastomers for cell sheet culture under mechanical loading;** Gen Wang, The First Affiliated Hospital, Soochow University, China

14:05-14;20
S0803-**Adehsion control of diverse cell types using bulk PNIPAAm hydrogel with a simple modulation of entanglement ratio of polymer chain within;** Andrew Choi, Pohang University of Science and Technology, S. Korea

14:20-14:35
S0804-**Enhancement of osteogenesis using a highly porous PLGA/ TCP scaffold containing magnesium in vitro and vivo;** Cairong Li, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

14;35-14:50
S0805-**A Novel Class of Hydrogel Nanofiber Scaffold Based on Polyvinyl Alcohol with Controllable Physical Property;** Dong-Hee Kang, School of Materials Science and Engineering, Gwangju Institute of Science and Technology, S. Korea

14:50-15:05
S0806-**Repairing fetal membranes with human amniotic membrane (hAM) plug type scaffold: Evaluation in midgestational pig model;** Jae Yeon Lee, POSTECH,S. Korea

15:05-15:20
S0807-**Application of silk fibroin for tissue engineering;** Chan Hum Park, Hallym University, S. Korea

15:25-15:45 Tea Break/Poster/Exhibition
(2nd floor, Beijing International Hotel Convention Center)

15:45-17:40 Session 09 Novel Bioinks and Biomaterials for Biofabrication – 3
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: David Gracias & Ting Zhang

15:45-16:05 **Invited**
S0901-**Bionic, self-folding and shape change soft-devices;** David Gracias, Johns Hopkins University, USA

16:05-16:25 **Invited**
S0902-**Bio-3D printing techniques for the fabrication of vascularized myocardial tissue;** Ting Zhang, Tsinghua University, China

16:25-16:40
S0903-**3D Printing of Particle-based Inks into Supramolecular Self-Healing Support Hydrogels;** Christopher B. Highley, University of Pennsylvania, USA

16:40-16:55
S0904-**Verapamil-Embedded Silicone Gel for Better Treatment Outcome of Hypertrophic Scar;** Jangyoun Choi, The Catholic University of Korea, S. Korea

16:55-17:10
S0905-**3D Printing in Solid-Like Liquids for Neural Tissue Fabrication;** Janko Kajtez, Technical University of Denmark, Denmark

17:10-17:25
S0906-**Rheological characterization of Laponite/alginate inks for additive manufacturing applications;** José Luis Dávila, University of Campinas, Brazil

17:25-17:40
S0907-**A Vascular Tissue-Specific Bioink for Direct Fabrication of Biomimetic Blood Vessel using 3D Coaxial Cell Printing;** Ge Gao, Pohang University of Science and Technology, S. Korea

15:45-17:40 Session 10 Bio-3D Printing of cells and novel bioprinting techniques - 3
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Zhongze Gu & Rong Wang

15:45-16:05 **Invited**
S1001-**Architectured Metamaterials: from Tunable Thermal Expansion to Microvascular Tissue Scaffolding;** Nicholas Xuanlai Fang, Massachusetts Institute of Technology, USA

16:05-16:25 **Invited**
S1002- **Fabrication of functional liver on a chip as drug evaluation system;** Zhongze Gu, Southeast University, China

16:25-16:40
S1003-**Study of artificial trachea fabrication using a 4-axis 3Dprinting technique;** Ji-Seung Lee, Hallym University, S. Korea

16:40-16:55
S1004-**3D-printed biodegradable conduit for peripheral nerve repair;** Yi-Wen Chen, China Medical University, China

16:55-17:10
S1005-**3D Bioprinting of Low Viscous Methacrylated Gelatin (GelMA) and Gelatin Hybrid Hydrogel;** Jun Yin, Zhejiang University, China

17:10-17:25
S1006-**Development of a Transition Metal Based Visible Light Photoinitiator System for Multiple Biofabrication Platforms;** Khoon Lim, University of Otago, New Zealand

17:25-17:40
S1007-**Nanofibrillar inks for 3D bioprinting: design, composition, printability;** Kajsa Markstedt, Chalmers University of Technology, Sweden

15:45-17:40 Session 11 Biofabrication of in vitro biological models - 3
(Function Room 8B, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Will Wenmiao Shu & Paulo Bartolo

15:45-16:05 **Invited**
S1101-**Rapid 3D Fabrication of Tubular Organs through Micro Dip Coating;** Will Wenmiao Shu, University of Strathclyde, UK

16:05-16:25 **Invited**
S1102-**Skin Printing;** Paulo Bartolo, University of Manchester, UK

16:25-16:40
S1103-**A novel cytocompatible and biomimetic hydrogel matrix for efficient 3D cell spheroid formation;** Y.S. Lim, Pusan National University School of Medicine, S. Korea

16:40-16:55
S1104-**In vitro 3D Human Renal Tubular Organoids Generated from Urine-Derived Stem Cells for Potential Use in Nephrotoxic Drug Development;** Yuanyuan Zhang, Wake Forest Institute for Regenerative Medicine, USA

16:55-17:10
S1105-**Transparency Improvement for Artificial Cornea based on 3d Printing Technology;** Hyeonji Kim, Pohang University of Science and Technology, S. Korea

17:10-17:25
S1106-**Biofabrication of Tissue-Specific Extracellular Matrix Proteins to Enhance Skeletal Myocyte Expansion and Differentiation of Muscle Progenitor Cells;** Hualin Yi, Wake Forest University School of Medicine, USA

17:25-17:40
S1107-**Bioprinting of thermo-responsive and photo-curable hydrogels for multilayer vessel-like structures;** Jia An, Nanyang technological University, Singapore

15:45-17:40 Session 12 Biofabrication of tissue scaffolds and tissue engineered substitutes - 3
(Function Room 6, 1st floor, Beijing International Hotel Convention Center)
Co-Chair: David Dean & Kelvin Wai Kwok YEUNG

15:45-16:05 **Invited**
S1201-**Stiffness-Matched, 3D Printed NiTi Mandibular Fixation Plates for Reconstructive Surgery;** David Dean, The Ohio State University, USA

16:05-16:25 **Invited**
S1202-**Polycaprolactone 3D Printed Scaffold with Controlled Magnesium Ion Release Promotes Large Bone Defect Healing;** Kelvin Wai Kwok YEUNG, The University of Hong Kong, Hong Kong, China

16:25-16:40
S1203-**3D Printed Porous Hybrid Scaffolds by Stereolithographic Fabrication for Cartilage Tissue Engineering;** Yu-Fang Shen, Asia University, Taiwan, China

16:40-16:55
S1204-**Effect of pore geometry on the fatigue property and cell affinity of porous titanium scaffolds processed by selective laser melting;** Changjun Han, Huazhong University of Science and Technology, China

16:55-17:10
S1205-**The bioprinting method of nerve collagen scaffold with growth factor concentration gradient and micro-channels;** Heran Wang, Shenyang Institute of Automation, Chinese Academy of Sciences, China

17:10-17:25
S1206-**3D-printed high strength nanocomposite hydrogel scaffold and its application for bone regeneration;** Xinyun Zhai, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

17:25-17:40
S1207-**Micropatterning on implantable biopolymer by femtosecond laser processing;** Yongwoo Chung, Center for Biomaterials, Korea Institute of Science and Technology, S. Korea

17:40-18:40 ISBF General Assembly
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)

October 17, 2017

08:30-10:00 Plenary Talks
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Chair: Feng Lin

08:30-09:15 **Plenary Talk 3**
B62-**Driving Medical Innovation through Biofabrication;** Martha S. Lundberg, National Heart, Lung, and Blood Institute (NHLBI), USA

09:15-10:00 **Plenary Talk 4**
B64-**3D Printing Technology and Its Biomedical Applications;** Dong-Woo Cho, Pohang University of Science and Technology, S. Korea

10:00-10:20 Tea Break/Poster/Exhibition
(2nd floor, Beijing International Hotel Convention Center)

10:20-12:30 Session 13 Design, modeling and evaluation of the biofabrication processes, structures, cell aggregates and tissue ingrowth - 1
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Kaiming Ye & Hyunjoon Kong

10:20-10:40 **Invited**
S1301-**Development of Pancreatic Islet Organoids from Human Pluripotent Stem Cells;** Kaiming Ye, Binghamton University, USA

10:40-11:00 **Invited**
S1302-**Biofabrication of Neuromuscular Junction;** Hyunjoon (Joon) Kong, University of Illinois at Urbana-Champaign, USA

11:00-11:15
S1303-**Printability evaluation of inks developed for extrusion-based bioprinting;** Tomasz Jungst, University of Würzburg, Germany

11:15-11:30
S1304-**Effect of hASC Concentration on β-Dispersion Characteristics of 3D Cellular Constructs Assessed Via Non-Destructive Dielectric Impedance Spectroscopy;** Rohan A. Shirwaiker, North Carolina State University, USA

11:30-11:45
S1305-**Simplified Molding Technique for Dermal Equivalents Allows Rapid Biofabrication and Homogenous Cell Distribution;** Stephan Cecil Fox, ETH Zürich, Switzerland

11:45-12:00
S1306-**Effects of printing, casting and preconditioning on P(AGE/G)-HA-SH in vivo degradation and early cartilage repair in a short-term equine model;** I.A.D. Mancini, Utrecht University, Netherlands

12:00-12:15
S1307-**Bioprinting of cell fibers;** Minghao Nie, University of Tokyo, Japan

12:15-12:30
S1308-**Structure of collagen scaffolds and tissue reaction after implantation;** Kurkov A V., Sechenov First Moscow State Medical University, Russia

10:20-12:30 Session 14 Bio-3D Printing of cells and novel bioprinting techniques - 4
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Chee Kai CHUA & Rui Yao

10:20-10:40 **Invited**
S1401-**4-dimensional printing – State of the art and its potential for biofabrication;** Chee Kai CHUA, Nanyang Technological University, Singapore

10:40-11:00 **Invited**
S1402-**Construction of human liver tissue by bioprinting of embryonic stem cells and progenitor cells;** Rui Yao, Tsinghua University, China

11:00-11:15
S1403-**Development of an open-sourced, micro-valve based bio-printer for therapeutic cells;** Nami Okubo, Newcastle University, UK

11:15-11:30
S1404-**Biofabrication and evaluation of a tendon-derived stem cells extracellular matrix modified demineralized bone matrix for tendon tissue engineering;** Quan Qing, Sichuan College of Traditional Chinese Medicine, China

11:30-11:45
S1405-**Printability Study on Gelatin Methacryloyl (GelMA)–based Hydrogel for 3D Bioprinting;** An Jia, Nanyang Technological University, Singapore

11:45-12:00
S1406-**Levitation of Tissue Spheroids and Spheroid-Mimicking Plastic Beads in a Liquid Using Ultrasonic Fields of Complex Structure for Scaffold-Free Bioprinting;** O.A. Sapozhnikov, Moscow State University, Russia

12:00-12:15
S1407-**Preparation and influencing factors of human mesenchymal stem cell microspheres by 3D Bio-electrospraying Technology;** QingXia Tao, the Bayi Brain Hospital affiliated to Beijing PLA army general Hospital, China

12:15-12:30
S1408-**A method to fabricate pore size controllable hollow bead as cell scaffold;** Peng-Lai Gao, Peking University, China

10:20-12:25 Session 15 Biofabrication of cell/tissue/organ-on-a-chips
(Function Room 8B, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Feng Xu & Yuan Pang

10:20-10:40 **Invited**
S1501- **Manipulating Cells at Microscale for Biomedical Applications;** Feng Xu, Xi'an Jiaotong University, China

10:40-10:55
S1502-**Printing droplets and gel shapes templated from droplets;** Shaohua Ma, Tsinghua-Berkeley Shenzhen institute, China

10:55-11:10
S1503-**Tensiometric estimation of material properties of tissue spheroids;** Elena A. Bulanova, 3D Bioprinting Solutions, Russia

11:10-11:25
S1504-**Development of advanced 3D liver-on-a-chip using 3D cell-printing technology;** Hyungseok Lee, Pohang University of Science and Technology, S. Korea

11:25-11:40
S1505-**Migration of Lung Cancers in a Fluidic Environment with Simulated Microgravity;** Jin Woo Lee, Gachon University, S. Korea

11:40-11:55
S1506-**A leaf-inspired organ-on-a-chip system for high-throughput cell experiments;** Mao Mao, Xi'an Jiaotong University, China

11:55-12:10
S1507-**3D printing of a patient-specific glioblastoma-on-a-chip;** Hee-Gyeong Yi, Pohang University of Science and Technology, S. Korea

12:10-12:25
S1508-**Precision High-throughput 3D Bio-printing Platform;** Yimin Guan, Shanghai Industrial Technology Research Institute (SITRI), China

10:20-12:30 Session 16 Biofabrication of tissue scaffolds and tissue engineered substitutes - 4
(Function Room 6, 1st floor, Beijing International Hotel Convention Center)
Co-Chair: Yasuyuki Sakai & Kai Zhang

10:20-10:40 **Invited**
S1602-**Oxygen-permeable membranes for aerobic organization and culture of liver tissues;** Yasuyuki Sakai, University of Tokyo, Japan

10:40-11:00 **Invited**
S1601-**Key Project of Biomaterials for the National Key Research & Development Program of China;** Kai Zhang, Sichuan University, China

11:00-11:15
S1603-**Optimization of scaffold design for tissue engineering peripheral nerve grafts based on three-dimensional anatomical architecture;** Liwei Yan, The First Affiliated Hospital of Sun Yat-sen University, China

11:15-11:30
S1604-**Fabrication of gradient nanofibrous scaffolds to regulate zonal differentiation of stem cells;** Nan Jiang, Xi'an Jiaotong University, China

11:30-11:45
S1605-**Development and characterization of a Poly(lactic-co-glycolic) acid - hydroxyapatite composite material to fabricate 3D-printed scaffolds for bone tissue engineering;** Sylvain Catros, University of Bordeaux, France

11:45-12:00
S1606-**Bioprinting of Scaffolds for Repair of Bony Defects – Multichannel Plotting of a Calcium Phosphate Cement and a Cell-laden Alginate-based Bioink;** Tilman von Strauwitz（Tilman Ahlfeld）, Technische Universität Dresden, Germany

12:00-12:15
S1607-**In vitro biological assessment of PCL/graphene scaffolds for bone regeneration;** Weiguang Wang, University of Manchester, UK

12:15-12:30
S1608-**A 3D-Printed Silk Sericin-Based Scaffolds for Transparent Wound Dressing;** Chen Chang-Sheng, Research Institute of Tsinghua University in Shenzhen, China

12:30-13:30 Lunch
(Ballroom, 2nd floor, Beijing International Hotel Main Building)

13:30-15:40 Session 17 Design, modeling and evaluation of the biofabrication processes, structures, cell aggregates and tissue ingrowth - 2
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Yunfeng Zhang & Qing Li

13:30-13:50 **Invited**
S1701-**Laser Deposition Path Planning for Hybrid Manufacturing;** Yunfeng Zhang, National University of Singapore, Singapore

13:50-14:10 **Invited**
S1702-**Design and Biofabrication of Vascular Network for in-vitro Study;** Qing Li, University of Sydney, Australia

14:10-14:25
S1703-**Noninvasive OCT imaging of 3D cardiac tissues constructed by inkjet bio-printer;** Atsushi Miyaoka, Institute of Future Technology, Ricoh Company Ltd, Japan

14:25-14:40
S1704-**Efficacy of PCL/TCP construct having bone derived extra-cellular matrix for reconstruction of calvaria defect in rat;** Keun-Ho Park, Korea Polytechnic University, S. Korea

14:40-14:55
S1705-**Irregular micro-hydrogel particles fabrication by elastocapillary behavior;** Qingzhen Yang, Xi'an Jiaotong University, China

14:55-15:10
S1706-**A method to simulate Drop-on-Demand printing by compressible fluid theory and CFD simulation;** Lu Wenfeng, National University of Singapore, Singapore

15:10-15:25
S1707-**The Comparison Study of Genomics and Proteomics on Glioblastoma multiforme under 3D and 2D Cell Cultures Models;** Liang Ma, Zhejiang University, China

15:25-15:40
S1708-**A Comparison of 2D and 3D Cultured Human Conjunctival Fibroblasts for Cell Behaviors and Extracellular Matrix Production;** Ju Hyun Lim, Dong-A University, S. Korea

13:30-15:40 Session 18 Bio-3D Printing of cells and novel bioprinting techniques - 5
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Ling Qin & Xiumei Wang

13:30-13:50 **Invited**
S1801-**Low-temperature 3D printing technique for fabricating biodegradable composite materials with bioactive elements;** Ling Qin, Chinese University of Hong Kong, Hong Kong, China

13:50-14:10 **Invited**
S1802-**Electrospinning hierarchically aligned fibrin nanofiber hydrogel for nerve regeneration;** Xiumei Wang, Tsinghua University, China

14:10-14:25
S1803-**3D Printing Degradable Biologically Mg mesh and mineralized Collagen Composites for skull Repair;** Jingxin Yang, Beijing Union University, China

14:25-14:40
S1804-**Calcium Channel Blockers: A Novel Target in Regenerative Medicine;** Negar Motayagheni, Wake Forest School of Medicine, USA

14:40-14:55
S1805-**Inkjet printing of single cells;** Ricardo Ribeiro, Newcastle University, UK

14:55-15:10
S1806-**Fabrication of tunable electrospun marine collagen-based nanofibrous scaffolds compatible for 3D cell culture;** S.Y. Hwang, Pusan National University School of Medicine, S. Korea

15:10-15:25
S1807-**Direct fabrication of spatially controlled nanofiber mats on insulator surfaces via electrolyte-assisted electrospinning;** Sang Min Park, Pohang University of Science and Technology, S. Korea

15:25-15:40
S1808-**Biomolding: a novel approach for additive manufacturing assisted Tissue Engineering for generating highly complex, three-dimensional tissue constructs;** Sascha Schwarz, Center for Applied Tissue Engineering and Regenerative Medicine, Germany

13:30-15:40 Session 19 Biofabrication for Translational Medicine - 1
(Function Room 8B, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Bin Liu & James J. Yoo

13:30-13:50 **Invited**
S1901-**Guidance Principle for Regulatory of Customized Additive Manufacturing Medical Device;** Bin Liu, CFDA, China

13:50-14:10 **Invited**
S1902-**3D Bioprinting for Translational Applications;** James J. Yoo, Wake Forest Institute for Regenerative Medicine, USA

14:10-14:25
S1903-**3D bioprinted micro-models for investigating invasion and proliferation mechanisms of pituitary adenomas;** Wang Jia, Beijing Tiantan Hospital, Capital Medical University, China

14:25-14:40
S1904-**Application of Customized 3D Printed Prosthesis in Complex Spine Tumor Reconstruction;** Xinghai Yang, Shanghai Changzheng Hospital, China

14:40-14:55
S1905-**Heat treatment and coating of Mg-1.2Zn-0.5Ca for the fabrication of bioresorbable bone fixation;** David Dean, The Ohio State University, USA

14:55-15:10
S1906-**Decellularized Extracellular Matrix-based Bioinks for Engineering Functional Human Tissues;** Jinah Jang, Pohang University of Science and Technology, S. Korea

15:10-15:25
S1907-**Three-Dimensional Printed Heart Model with Complex Ventricular Septal Defect for Diagnosis and Preoperative Simulation;** Zhiyong Huang, South China University of technology, China

15:25-15:40
S1908-**Fabrication of polycaprolactone kagome-structure scaffold using precision extruding deposition system and assessment of mechanical and biological characteristics;** Se-Hwan Lee, Wonkwang University, S. Korea

13:30-15:40 Session 20 Biofabrication of tissue scaffolds and tissue engineered substitutes - 5
(Function Room 6, 1st floor, Beijing International Hotel Convention Center)
Co-Chair: Jerry Fuh Ying-Hsi & Yu-Chen Hu

13:30-13:50 **Invited**
S2001-**Fabrication of Cell-laden Tissue Engineering Scaffolds via Combined Inkjet and E-jet Bioprinting Techniques;** Jerry Fuh Ying-Hsi, National University of Singapore, Singapore

13:50-14:10 **Invited**
S2002-**RNA Therapeutics and Anabolic Gene Delivery for Tissue Regeneration;** Yu-Chen Hu, National Tsing Hua University, Taiwan, China

14:10-14:25
S2003-**Hydroxyilated Keratin from chicken feather as novel substrate for in vitro tissue model fabrication;** Carmelo De Maria, University of Pisa, Italy

14:25-14:40
S2004-**Fabrication of Gradient Coil-Wall Scaffold Structure for 3D Cell Culture via Electrohydrodynamic Printing;** Jie Sun, Xi'an Jiaotong-Liverpool University, China

14:40-14:55
S2005-**Submicron Scale Fabrication of Polymeric Scaffolds via Solution-based Electrohydrodynamic Printing;** Bing Zhang, Xi'an Jiaotong University, China

14:55-15:10
S2006-**Interlamellar Bonding is Critical for Achieving the Requisite Mechanical Properties of Regenerative Scaffolds;** Christian M. Puttlitz, Colorado State University, USA

15:10-15:25
S2007-**Evaluation of polymer-ceramic scaffolds for bone regeneration;** Boyang Huang, University of Manchester, UK

15:25-15:40
S2008-**In vitro degradation and characterization of PHBV scaffolds for bone tissue engineering made by selective laser sintering;** Diermann, Sven Heinrich, The University of Queensland, Australia

15:40-16:00 Tea Break/Poster/Exhibition
(2nd floor, Beijing International Hotel Convention Center)

16:00-18:25 Session 21 Design, modeling and evaluation of the biofabrication processes, structures, cell aggregates and tissue ingrowth - 3
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: MinJun Kim & Yong Huang

16:00-16:20 **Invited**
S2101-**BioFabrication of Nanoscale Robotic Swimmers;** MinJun Kim, Southern Methodist University, USA

16:20-16:40 **Invited**
S2102-**Bioprinting: Implementation, Process Dynamics, and Process-Induced Cell Injury;** Yong Huang, University of Florida, USA

16:40-16:55
S2103-**Effects of Bionic Mechanical Stimulation on Properties of Engineered Cartilage in Vitro;** Ling Wang, Xi'an Jiaotong University, China

16:55-17:10
S2104-**Effect of Nozzle Design on Rheological Properties Using Computational Fluid Dynamics;** Isabela M. Poley, UFMG, Belo Horizonte, Brazil

17:10-17:25
S2105-**Does size matter – how change of fiber diameter affects material properties in additive manufacturing?** Joanna Idaszek, Warsaw University of Technology, Poland

17:25-17:40
S2106-**The Synergistic Effect of Proloading TGF-β1, Incorporated TGF-β1 Affinity Peptides and The Cell Seeding Density about Ectopic Cartilage Formation;** Jiaqing Chen, Peking University, China

17:40-17:55
S2107-**The construction of liver tissue with high cell activity and mechanical strength by hybrid bioprinting;** Qiang Wang, ShenYang Ligong University, China

17:55-18:10
S2108-**Micropatterning on implantable biopolymer by femtosecond laser processing;** Yongwoo Chung, Center for Biomaterials, Korea Institute of Science and Technology, S. Korea

18:10-18:25
S2109-**3D electrically conductive GelMA platform for cell alignment;** Tiziano Serra, AO Research Institute Davos, Switzerland

16:00-18:25 Session 22 Bio-3D Printing of cells and novel bioprinting techniques - 6
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Dong Sung Kim & Shengli Mi

16:00-16:20 **Invited**
S2201-**Electrolyte-assisted electrospinning to fabricate a free-standing, spatially controlled nanofiber membrane for guided tissue formation;** Dong Sung Kim, Pohang University of Science and Technology, S. Korea

16:20-16:40 **Invited**
S2202-**Research on the Layered Technology for Functionally Gradient Material Parts;** Shengli Mi, Graduate School at Shenzhen, Tsinghua University, China

16:40-16:55
S2203-**Laminated Inkjet-spray Printing for Large-scale 3D Hydrogel Fabrication;** Sejeong Yoon, Pohang University of Science and Technology, S. Korea

16:55-17:10
S2204-**The Use of High Intensity Focused Ultrasound for Targeted Tissue Decellularization in Vivo;** V.A. Khokhlova, University of Washington/Moscow State University, Russia

17:10-17:25
S2205-**The construction of liver tissue with vascular tube and network via ultra-precision bioprinting method;** Xiongfei Zheng, Shenyang Institute of Automation, Chinese Academy of Sciences, China

17:25-17:40
S2206-**New concept of 3D printed bone clip (polylactic acid/hydroxyapatite/silk composite) for internal fixation of bone fractures;** Young Jin Lee, Hallym University, S. Korea

17:40-17:55
S2207-**Improve Resolution and Fidelity of Droplet-Based Bioprinting by Upward Ejection;** Yuan Ji, Xi'an Jiaotong University, China

17:55-18:10
S2208-**Regeneration of a Rabbit Calvarial Defect using Silk Fibroin Nanofiber-PGA Scaffolds with Electrospinning and 3D Printing Technique;** Young-Gwang Ko, Kumoh National Institute of Technology, S. Korea

18:10-18:25
S2209-**Fabrication of three-dimensional vascular network with geometrical regulation of angiogenesis by using 3D bioprinting;** Jeong Hyun Son, Ulsan National Institute of Science and Technology, S. Korea

16:00-18:25 Session 23 Biofabrication for Translational Medicine - 2
(Function Room 8B, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Yilei Mao & Yuanyuan Zhang

16:00-16:20 **Invited**
S2301-**A primary study for bioprinting of human liver;** Yilei Mao, Beijing Union Medical University, China

16:20-16:40 **Invited**
S2302-**Strategies to Optimize Adult Stem Cell Therapy for Tissue Regeneration;** Yuanyuan Zhang, Wake Forest University School of Medicine, USA

16:40-16:55
S2303-**Efficiently organization of functional tissue elements by 3D design, printing, and culture;** Yuan Pang, Tsinghua University, China

16:55-17:10
S2304-**Bioprinting-assistant Extracellular Matrix Composition Optimization for Periodontal Treatments;** Yufei Ma, Xi'an Jiaotong University, China

17:10-17:25
S2305-**3-Dimensional Printing of Microneedles on Personalized Curved Surfaces for Transdermal Drug Delivery;** Lifeng Kang, National University of Singapore, Singapore

17:25-17:40
S2306-**Gel casting as an approach for tissue engineering of multilayered tubular structures: application for urethral reconstruction;** Miguel Castilho, Utrecht University, Netherlands

17:40-17:55
S2307-**3D cell printed skeletal muscle construct for treatment of volumetric muscle loss injury using decellularized extracellular matrix bioinks;** Yeong-Jin Choi, Pohang University of Science and Technology, S. Korea

17:55-18:10
S2308-**Direct fabrication of alginate scaffolds with hollow channels and nano hydroxyapatite layers for bone tissue engineering;** Yongxiang Luo, Shenzhen University, China

18:10-18:25
S2309-**The application of decellularized meniscus extracellular matrix in meniscus regeneration**; Tingfei Xi, Peking University, China

16:00-18:25 Session 24 Biofabrication of tissue scaffolds and tissue engineered substitutes - 6
(Function Room 6, 1st floor, Beijing International Hotel Convention Center)
Co-Chair: Yonghua Chen & Lei Yang

16:00-16:20 **Invited**
S2401-**3D Printing of Thermoplastic Polyurethane Based Shape Memory Polymer for Tissue Scaffolding Applications;** Yonghua Chen, University of Hong Kong, Hong Kong, China

16:20-16:40 **Invited**
S2402-**A versatile fabrication strategy of three-dimensional foams for soft and hard tissue engineering;** Lei Yang, Soochow University, China

16:40-16:55
S2403-**3D bioprinting of hydrogels combined with rhEGF for chronic wound healing;** Hongbo Zhang, East China University of Science and Technology, China

16:55-17:10
S2404-**Development of transplantable collagenous composite based on collagen compression process for treating limbal stem cell deficiency;** Hyeonjun Hong, Pohang University of Science and Technology, S. Korea

17:10-17:25
S2405-**Osteogenic Potential of Autologous Bone Marrow-derived Mesenchymal Stem Cells with 3D Printed Autologous Bone Matrix Scaffolds;** Hongqing Chen, Xijing Hospital, Fourth Military Medical University, China

17:25-17:40
S2406-**Fabrication of hybrid fiber/hydrogel composite scaffold for ligament regeneration;** Jeong Hwa Kim, Kyungpook National University, S. Korea

17:40-17:55
S2407-**Development of 3D Bioactive Composite Scaffold for Bone Regeneration;** JiaPing Li, Maastricht University, Netherlands

17:55-18:10
S2408-**3D Cell Printing of Biomimetic Meniscus Constructs using Meniscus-Derived Bioink;** Suhun Chae, Pohang University of Science and Technology, S. Korea

18:10-18:25
S2409-**Development of flexible Poly(lactic-co-glycolic Acid) filament for 3D bio-printing;** Jonghyeuk Han, Ulsan National Institute of Science and Technology, S. Korea

October 18, 2017

08:30-11:05 Session 25 Novel Bioinks and Biomaterials for Biofabrication - 4
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Haobo Pan & Lei Zhang

08:30-08:50 **Invited**
S2501- **Importance of icroenvironment pH in the design of biomaterials used for osteoporosis patients;** Haobo Pan, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

08:50-09:05
S2502-**Development of porous titanium/silk fibroin composite scaffolds and preliminary biocompatibility evaluation;** Xiang Li, Shanghai Jiao Tong University, China

09:05-09:20
S2503-**New biomaterial formulations with enhanced bioinstructive functional properties;** Rong Wang, Maastricht University, Netherlands

09:20-09:35
S2504-**Pseudo-polypeptides forming thermoresponsive, biocompatible and injectable gels for multiple biomedical applications;** Thomas Lorson, Julius-Maximilians-Universität Würzburg, Germany

09:35-09:50
S2505-**Decellularized Extracellular Matrix Based Bio-ink having an enhanced 3D printability;** Won woo Jeong, Ulsan National Institute of Science and Technology, S. Korea

09:50-10:05
S2506-**3D Printing of Photocurable and Biodegradable Poly(glycerol sebacate) Elastomers;** Yi-Cheun Yeh, University of Pennsylvania, USA

10:05-10:20
S2507-**Development of smart BioINK for 3D BioPrinting of Grafts for Bone Engineering…A STEP TOWARDS SUSTAINABILITY;** Dhoolappa Melinamani, Veterinary College, KVAFSU, Shivamogga, India

10:20-10:35
S2508-**Hyaluronic Acid derivatives-based Double Network systems for tissue engineering applications;** Ugo D'Amora, Institute of Polymers, Composites and Biomaterials, National Research Council, China

10:35-10:50
S2509-**Bioink development and role of cell-bioink interaction for the biofabrication of cartilage constructs with zonal properties;** Riccardo Levato, Utrecht University, Netherlands

10:50-11:05
S2510-**The Neural Prosthetic Application of Advanced Functionalized PolymerMembranes;** James M. Welsh, Clemson University, USA

08:30-11:10 Session 26 Integrated bio-micro-nano fabrication, and bio-additive manufacturing
(Function Room 8A, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Woonbong Hwang & Jong-Young Kwak

08:30-08:50 **Invited**
S2601-**Design and applications of nano-engineered surfaces;** Woonbong Hwang, Pohang University of Science and Technology, S. Korea

08:50-09:10 **Invited**
S2602-**Biomimetic immune cell network in nanofibrous scaffold-based 3D culture system;** Jong-Young Kwak, Ajou University School of Medicine, S. Korea

09:10-09:25
S2603-**Improving mechanical functioning of micro-fibre reinforced hydrogels for zonal articular cartilage repair;** Miguel Castilho, Utrecht University, Netherlands

09:25-09:40
S2604-**3D bioprinting of cell-laden molecularly engineered PEG-based hydrogels;** Gözde Akdeniz Skvortsov, Sabanci University Nanotechnology Research and Application Center. Turkey

09:40-09:55
S2605-**3D-engineering of therapeutic hydrogel nanocomposites;** Maling Gou, Sichuan University, China

09:55-10:10
S2606-**Design, fabrication and evaluation of a novel hybrid plasma-assisted bioprinting system (PABS) for tissue engineering;** Fengyuan Liu, University of Manchester, UK

10:10-10:25
S2607-**Reinforcing hydrogel-to-ceramic interface in osteochondral constructs by converging additive manufacturing techniques;** Paweena Diloksumpan, Utrecht University, Netherlands

10:25-10:40
S2608-**Nanocrystalline Cellulose Hydrogel for Artificial Brain Fabrication;** Myung-Han Yoon, School of Materials Science and Engineering, Gwangju Institute of Science and Technology, S. Korea

10:40-10:55
S2609-**Nanofiber membrane with a compliant mechanism;** Young Hun Jeong, Kyungpook National University, S. Korea

10:55-11:10
S2610-**3D-printed implantable magnetocaloric mats for effective thermal cancer therapy;** Zhikai Tan, Hunan University, China

08:30-11:10 Session 27 Biofabrication of in vitro biological models - 4
(Function Room 8B, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Bruce Z. Gao & Sik Yoon

08:30-08:50 **Invited**
S2701-**Laser Guidance-Based Multiple Beam Cell Patterning Technique;** Bruce Z. Gao, Clemson, University, USA

08:50-09:10 **Invited**
S2702-**Biomimetic 3D culture of human ovarian cancer cells using a natural polymer-based composite hydrogel matrix;** Sik Yoon, Pusan National University School of Medicine, S. Korea

09:10-09:25
S2703-**Layer-by-layer Assembly of Poly(lactic) acid scaffolds seeded with human primary cells for bone tissue engineering: in vitro and in vivo study;** Vera Guduric, University of Bordeaux, France

09:25-09:40
S2704-**Fabrication of Artificial Bacteria using Bacterial Flagella;** U Kei Cheang, Southern University of Science and Technology, China

09:40-09:55
S2705- **Integrated bi-layered 3D printed-scaffold for osteochondral tissue engineering;** Ming-You Shie, China Medical University, Taiwan, China

09:55-10:10
S2706-**Study of cell spheroid formation using low and high frequency standing surface acoustic wave (SSAW);** Yannapol Sriphutkiat, Nanyang Technological University, Singapore

10:10-10:25
S2707-**Photo-patterned Oxygen Sensing Films for Controlling Cell Growth and Studying Metabolism;** Fei Zeng, Southern University of Science and Technology, China

10:25-10:40
S2708-**Development of silk-based bio-absorbable screw and plate using a centrifugal casting technique with three-dimensional printer;** Ye Bin Seo, Hallym University, S. Korea

10:40-10:55
S2709-**Screening stem cell proliferation and differentiation with micro/nano hierarchical anisotropic patterns;** Hyung Woo Kim, Pohang University of Science and Technology, S. Korea

10:55-11:10
S2710-**The biomimetic meniscus scaffold can enhance meniscus regeneration in rabbit model;** Weimin Guo, Chinese PLA General Hospital, China

08:30-11:10 Session 28 Biofabrication of tissue scaffolds and tissue engineered substitutes – 7
(Function Room 6, 1st floor, Beijing International Hotel Convention Center)
Co-Chair: Yanan Du & Vladimir Mironov

08:30-08:50 **Invited**
S2801-**Engineering 3D hepatic microenvironment for drug Evaluation with improved predictability;** Yanan Du, Tsinghua University, China

08:50-09:10 **Invited**
S2802-**Scaffold-free and label-free magnetic levitational assembly of tissue spheroids;** Vladislav Parfenov, 3D Bioprinting Solutions, Russia

09:10-09:25
S2803-**Puerarin incorporated into a porous PLGA/TCP scaffold promotes osteogenesis in vitro and in vivo;** Xinluan Wang, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

09:25-09:40
S2804-**Compressive properties and in vitro cell ingrowth of cellular Ti-6Al-4V scaffolds fabricated by selective electron beam melting;** Xipeng Tan, Nanyang Technological University, Singapore

09:40-09:55
S2805-**Enrichment of glioma stem cell-like cells by 3D bioprinting scaffolds;** XuanZhi Wang, The Second Affiliated Hospital of Soochow University, China

09:55-10:10
S2806-**Fabrication of novel bioactive hydroxyapatite-chitosan-silicate hybrid scaffolds: combined the sol–gel process and 3D-plotting technique;** YiFan Dong, South China University of Technology, China

10:10-10:25
S2807-**Tissue engineering scaffold with bionic heterogeneous concentric core-shell structure for bone defect repairing;** Ying Zhang, South China University of Technology, China

10:25-10:40
S2808-**Design and fabrication of a novel porous titanium dental implant with improved mechanical properties;** Yin-ze Xiong, Shanghai Jiao Tong University, China

10:40-10:55
S2809-**Biomechanical properties and healing effects of chitin patch in a rat full-thickness abdominal wall defect model;** Jing Qiao, Ocean University of China, China

10:55-11:10
S2810-**3D Bioprinting the Future of Orthopaedic Surgery;** Gareth Turnbull, University of Strathclyde, UK

08:30-11:10 Session 29 Voice from Biofabrication Industry
(Board Room, 2nd floor, Beijing International Hotel Convention Center)
Co-Chair: Fabien Guillemot & Hongxin Nie

08:30-08:45 **Invited**
4D bioprinting of a full-thickness human skin equivalent; Fabien Guillemot, Poietis, Bioparc Bordeaux Metropole, France

08:45-09:00 **Invited**
Investment in Bio-Tech; Hongxin Nie, Shan-Lan, China

09:00-09:10
Emerging Business Models Towards Commercialization of Bioprinting Technology; Yusef D. Khesuani, 3D Bioprinting Solutions, Russia

09:10-09:20
SunP Biotech

09:20-09:30
Medprin Regenerative Medical Technologies Co., Ltd.

09:30-09:40
Hangzhou Regenovo Biotechnology Co.,Ltd.

09:40-09:50
Celllink

09:50-10:00
T&R Biofab Korea

10:00-10:10
Application Case Study All-in-one Bio 3D Printer, IN VIVO® from ROKIT Inc.; Heon Ju Lee, ROKIT Inc & ROKIT EU GmbH, S. Korea

10:10-10:20
Shanghai Industrial μTechnology Research Institute, SITRI

10:20-10:30
Tianjin SciTsinghua QuickBeam Tech.Co.,Ltd

10:30-10:40
Nordson EFD, LLC

10:40-10:50
BMF Material Technology Inc.

10:50-11:00
RegenHu, Nuohai Life Science（Shanghai）Co.,Ltd

11:00-11:10
Ten Dimensions Technology Co., Ltd

11:10-11:25 Tea Break/Poster/Exhibition
(2nd floor, Beijing International Hotel Convention Center)

11:25-11:55 Senior Award Presentation
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)

11:55-12:25 Junior Award and Closing Ceremony
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)

12:25-13:25 Lunch
(Auditorium, 2nd floor, Beijing International Hotel Convention Center)

13:50-18:00 Tsinghua Tour

18:00-20:30 Conference Banquet
(3rd floor, Liaoning International Hotel, No.2 A North Fourth Ring Road West, Haidian District, Beijing)

Poster/Rapid Fire Session

October 17, 13:30-15:00 Rapid Fire Session 1
(Board Room, 2nd floor, Beijing International Hotel Convention Center)
Co-chair: Liliang Ouyang & Daniel Nieto

13:30-13:33
RFS01 **Sacrificial multicellular spheroids (sacrospheres) for the biofabrication of tubular tissue constructs;** Adrian Neagu, Victor Babes University of Medicine and Pharmacy, Romania

13:33-13:36
RFS02 **Microfluidic cancer model for tumor metastasis analysis and anti-metastatic drugs screening;** Zhichang Du, Tsinghua University, China

13:36-13:39
RFS03 **Fabrication of water-stable, transparent, and cell-adhesive poly(vinyl alcohol) nanofibrous membrane;** Chang-Min Kang, Ajou University, S. Korea

13:39-13:42
RFS04 **Personalized Completely Bio-degradable Stent Fabricated by 3D-printing;** Chengjin Wang, Tsinghua University, China

13:42-13:45
RFS05 **Construction of Large Bioartificial Liver Tissue with Multiple Cells and In Vivo Implantation Research;** Ruomeng Chen, Xi'an Jiaotong University, China

13:45-13:48
RFS06 **Constructing heterogeneous tumor models by integrated bioprinting system;** Tiankun Liu, Tsinghua University, China

13:48-13:51
RFS07 **Novel Biomimetic Hybrid Scaffolds Incorporating Electrospun Short Fibers for Tissue Engineering;** Yongcong Fang, Tsinghua University, China

13:51-13:54
RFS08 **Construction of Gradient Tissue Engineering Blood Vessels Using Bio - 3D Printing Technology;** Yingying Hu, Graduate School at Shenzhen, Tsinghua University, China

13:54-13:57
RFS09 **Laser-based microfabrication of an electroestimulator device for cardiac cells stimulation;** Daniel Nieto, University of Santiago de Compostela/National University of Ireland, Ireland

13:57-14:00
RFS10 **Multi-material cartilage scaffold with bionic gradient structure in mechanical and histological;** Xiao Guo, Graduate School at Shenzhen, Tsinghua University, China

14:00-14:03
RFS11 **In vitro evaluation of laser induced periodic surface structures on new zirconia/niobium biocermet for hard tissue;** Daniel Nieto, University of Santiago de Compostela/National University of Ireland, Ireland

14:03-14:06
RFS12 **Liver sinusoid on a chip through laminar flow;** Xiaoman Yi, Graduate School at Shenzhen, Tsinghua University, China

14:06-14:09
RFS13 **Resorption Kinetics of Poly(propylene fumarate) Scaffolds with Low Polydispersity of Molecular Mass;** David Dean, The Ohio State University, USA

14:09-14:12
RFS14 **Tissue-engineered cornea constructed with compressed collagen and laser-perforated electrospun mat;** Bin Kong, Tsinghua-Berkeley Shenzhen institute, China

14:12-14:15
RFS15 **Fabrication of 3D tissue-like structures using 3D Bio assembly Technics;** Hamada Yuta, University of Toyama, Japan

14:15-14:18
RFS16 **Bioprinting of mesenchymal stem cell and Schwann cell core-shell fibers and fabrication of biomimetic nerve fiber bundles by electrospinning;** Xinda Li, Tsinghua University, China

14:18-14:21
RFS17 **Tumor-like lung cancer model based on 3D bioprinting;** Xiong Wang, Tsinghua University, China

14:21-14:24
RFS18 **Bioprinting strategies for the evaluation of the impact of pre-vascularization in cell communication platforms;** Hugo Oliveira, University of Bordeaux, France

14:24-14:27
RFS19 **Investigation of General Criteria for Extrusion-based 3D Bioprinting;** Liliang Ouyang, Tsinghua University, China

14:27-14:30
RFS20 **Three-dimensional coculture of endothelial and cancer cells in poly(vinyl) alcohol nanofibrous membrane;** Jeong-In Shin, Ajou University, S. Korea

14:30-14:33
RFS21 **Fabrication of In Vitro Skeletal Muscle Atrophy Model for Drug Screening;** Kazunori Shimizu, Nagoya University, Japan

14:33-14:36
RFS22 **Superhydrophobic surface treatment on micro channel heat exchanger for enhanced self-cleaning effect;** Jeong-Won Lee, POSTECH, Korea

14:36-14:39
RFS23 **Scalable expansion and uniform aggregation of human induced pluripotent stem cells by 3D cell printing;** Yang Li, Tsinghua University, China

14:39-14:42
RFS24 **Printability of silk based composite bioink;** Donghyuk Shin, Seoul National University, S. Korea

14:42-14:45
RFS25 **Dynamic Microfluidic 3D co-culture model for prostate tumor metastasis analysis adjusted by Carcinoma-associated fibroblasts and anti-metastatic drugs screening;** Zhaoyu Liu, Open FIESTA Center, Tsinghua University, China

14:45-14:48
RFS26 **Fungus growth control on various wettability aluminum surface;** Jinyoung Park, POSTECH, S. Korea

14:48-14:51
RFS27 **An electromagnetic micropump used in circulatory system of the microfluidic chip;** Haitao Pu, Open FIESTA Center, Tsinghua University, China

14:51-14:54
RFS28 **Enhancement of Bio-degradability and cell adhesion of PCL and PLGA 3D scaffolds by increasing hydrophilicity;** Jongseon Choi, POSTECH, S. Korea

14:54-14:57
RFS29 **3D Bioprinting of Vascular Networks;** Patrick Thayer, CELLINK LLC, USA

14:57-15:00
RFS30 **Preparation of gradient porous ceramic material by multi-material stereolithography ceramic manufacturing**; Kehui Hu, Tsinghua University, China

October 17, 16:00-17:27 Rapid Fire Session 2
(Board Room, 2nd floor, Beijing International Hotel Convention Center)
Co-chair: Yu Song & Seong Jin Lee

16:00-16:03
RFS31 **3D Bioprinted Human Skin Models Analogs with Distinct Cellink Bioinks;** Evita Ning, CELLINK LLC, Scotland, UK

16:03-16:06
RFS32 **Self-circulating cell culture chip based on AC electroosmotic principle;** Baihan Li, Graduate School at Shenzhen, Tsinghua University, China

16:06-16:09
RFS33 **Development of Nanofiber-based Conjunctival Stroma for 3D Reconstructed Human Conjunctiva;** Ju Hyun Lim, Dong-A University, S. Korea

16:09-16:12
RFS34 **Integration device of microfluidics and biosensors for realtime and in-situ metabolites analysis of HepG2 cells;** Jingjing Xia, Graduate School at Shenzhen, Tsinghua University, China

16:12-16:15
RFS35 **Assembling three-dimensional porous electrospun nanofiber scaffolds by magnetic force and extracellular matrix;** Juqing Song, Dongguan University of Technology, China

16:15-16:18
RFS36 **Single-cell Array Printing on Microfluidic Chip for Single-cell Analysis;** Shuaitao Yang, Graduate School at Shenzhen, Tsinghua University, China

16:18-16:21
RFS37 **Photo-clickable Thiol-ene Gelatin Based Biomaterial for 3D Bioplotting, 3D Bioassembly and Digital Light Processing;** Khoon Lim, University of Otago, New Zealand

16:21-16:24
RFS38 **3D Printing Hydrogel-Elastomer Hybrids for Multi-Diagnostic and Mechanical Adaptive Contact lens;** Hongyi Yao, Graduate School at Shenzhen, Tsinghua University, China

16:24-16:27
RFS39 **Three-Dimensional Cellular Construct Composed of Multi-Layered Cell Sheet on Electrospun Mesh for in vitro and vivo Bone Regeneration;** Le Jin, Beijing University of Chemical Technology, China

16:27-16:30
RFS40 **Microfluidic model for Analysis of Spontaneous Contraction of Cardiomyocytes and The Realization of Cardiomyocyte Pump;** Shengyue Xia, Graduate School at Shenzhen, Tsinghua University, China

16:30-16:33
RFS41 **Construction of vascularized myocardial tissue with the assembly of hollow hydrogel fibers;** Bo Jia, Tsinghua University, China

16:33-16:36
RFS42 **Development of fucoidan blended nanofibrous membrane for enhanced cell adhesion to the nanofibers**; Min-Ho Choi, Ajou University, S. Korea

16:36-16:39
RFS43 **Research on the construction of pelvic floor muscle based on 3D printing technique;** Xiaolei Su, Tsinghua University, China

16:39-16:42
RFS44 **A Comparison of Printing Accuracy of Screw- vs. Press-Driven Extrusion of Bioinks;** Philipp Fisch, ETH Zürich, Switzerland

16:42-16:45
RFS45 **Research on 3D printing of cells into tissue engineered scaffolds based on a modular image processing technique;** Kevin Firouzian, Tsinghua University, China

16:45-16:48
RFS46 **Biofabrication of an organoid-laden perfusable liver construct;** Riccardo Levato, Utrecht University, Netherlands

16:48-16:51
RFS47 **Modular design of a multi-sensor integrated heart-on-a-chip device;** Mutsuhito Sakamiya, Tsinghua University, China

16:51-16:54
RFS48 **3D migration of dendritic cells to cancer cells in nanofibrous scaffold-based two-layer culture system;** Seo-Kyung Jung, Ajou University, S. Korea

16:54-16:57
RFS49 **Design and fabrication of a layered brain like construct with Bio-3D printing techniques;** Yu Song, Tsinghua University, China

16:57-17:00
RFS50 **Fabrication of hierarchical micro/nano structure on an insulator by electrospraying;** Seong Jin Lee, POSTECH, S. Korea

17:00-17:03
RFS51 **Fabrication of free-standing hybrid-type nanofiber mat for the development of the multi-layered cardiac patch;** Seongsu Eom, POSTECH, S. Korea

17:03-17:06
RFS52 **Three dimensional coculture of bacteria and phagocytes in poly(vinyl alcohol) nanofibrous membrane;** Seung-Jun Lee, Ajou University, S. Korea

17:06-17:09
RFS53 **The fabrication of well-interconnected polycaprolactone/hydroxyapatite composite scaffolds, enhancing the exposure of hydroxyapatite via 3D plotting and alkaline erosion;** Yong Sang Cho, Wonkwang University, S. Korea

17:09-17:12
RFS54 **Tubular inverse opal scaffolds for biomimetic vessels;** Ze Zhao, Southeast University, China

17:12-17:15
RFS55 **In vitro degradation studies of PLGA/TCP/ Mg composite porous scaffolds manufactured by Low-temperature 3D Printing;** Long Li, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

17:15-17:18
RFS56 **Microencapsulation Technology for Undifferentiated Expansion of Human Induced Pluripotent Stem Cells;** Chenjia Zhao, Tsinghua University, China

17:18-17:21
RFS57 **Surface modification of polyurethane (PU) and poly(lactic-co-glycolic acid) (PLGA) used for degradable blood vessel prostheses via heparin cross-linking;** Muhan Liu, Tsinghua University, China

17:21-17:24
RFS58 **3D printing equipment and craft for coronary scaffold;** Shuangzhu Kang, Tsinghua University, China

17:24-17:27
RFS59 **Research of Customized Aortic Stent Graft Manufacture;** Xin Chen, Tsinghua University, China

Awards

The ISBF has expanded its award programs and added two new awards this year. The award categories include A) Senior Investigator Award, B) ISBF's young investigator awards, and C) Student Travel Awards. The awards will be presented at the Biofabrication 2017 Conference in Beijing, China. An overwhelming number of applications was received for each award category. The ISBF Awards Committee has thoroughly reviewed and selected the awardees. The winners of the ISBF awards are shown below.

ISBF Senior Investigator Award

Awardees: Dr. Wei Sun

Dr. Wei Sun is an appointed Albert Soffa Chair Professor of Mechanical Engineering, Drexel University, and National "Thousand-Talents" Distinguished Professor and Director of Biomanufacturing Engineering Research Center, Tsinghua University, Beijing, China. Dr. Sun's research has been on Biofabrication, Bio-3D Printing, Computer-Aided Tissue Engineering, CAD/CAM, and Additive Manufacturing. His research has been sponsored by the National Science Foundation (NSF), Defense Advanced Research Projects Agency (DARPA), National Aeronautics and Space Administration (NASA), National Institute of Standard and Technology (NIST), Army Research Laboratory (ARL), Johnson & Johnson (J&J), the Chinese Natural Science Foundation, the Chinese Ministry of Science and Technology, and the Chinese Ministry of Education. Dr. Sun has published 450+ journal and conference papers/abstracts, 60+ patent applications, and conducted 260+ invited national and international presentations in the field of his research. Dr. Sun is the Founding President for International Society of Biofabrication (2010-2014), and currently serving Editor-in-Chief for international journal Biofabrication.

ISBF Young Investigator Award

Awardees:

1ST Place: Yeong-Jin Choi, Postech, Pohang, Korea

Yeong-Jin Choi
Graduate Student
Pohang University of Science and Technology (POSTECH)
South Korea

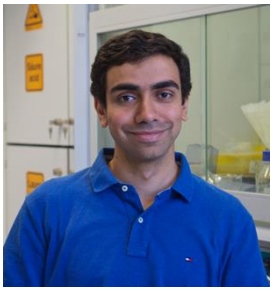
Yeong-Jin Choi received his B.S. (2012) from division of Biomaterial Engineering at Kangwon National University, Korea. He is currently pursuing his PhD degree under the supervision of Prof. Dong-Woo Cho in Pohang University of Science and Technology (POSTECH), Korea. His research interests focus on fabrication of 3D functional living tissue/organ by 3D cell printing for biomedical applications.

2nd Place: Christopher Highley, University of Pennsylvania, USA

Christopher Highley, PhD
Postdoctoral research fellow
Department of Bioengineering, University of Pennsylvania
USA

Chris Highley is a postdoctoral research fellow in the Department of Bioengineering at the University of Pennsylvania. He received a bachelor's degree in Biomedical Engineering from Duke University and a doctorate in Biomedical Engineering from Carnegie Mellon University. His primary research interests are in the development of materials and fabrication technologies to enable the design and construction of complex cellular and material systems, with the goal of addressing fundamental and translational problems in biomedicine.

3rd Place: Almoatazbellah Youssef, Wurzburg University, Germany



Almoatazbellah Youssef
Graduate Student
Department of Functional Materials, Würzburg University Hospital Germany

Almoatazbellah Youssef is a Ph.D. student in the Department of Functional Materials at the Würzburg University Hospital. He studied medicine at Ain Shams University in Cairo, Egypt, and graduated as a physician in 2011. Afterwards, he worked for two years in Alhelmya Military Hospital, one of the largest trauma centers in Cairo, as an orthopedics resident. He obtained a master's degree in Life Sciences from Würzburg University, Germany, and his interest in regenerative medicine lead him to start a Ph.D. in the Biofabrication Group with Prof. Paul Dalton. His research involves the fabrication of scaffolds using melt electrospinning writing.

ISBF Travel Award for the 2017 Biofabrication Conference

Travel Awardees:

1) Chen Chen, Utrecht University, Netherlands
2) Vera Guduric, BioTis, INSERM U1026, UniversitŽ de Bordeaux, France
3) Dhoolappa Melinamani, Shivamogga, India
4) Khoon S Lim, University of Otago, New Zeland
5) Riccardo Levato, Utrecht University, Netherlands
6) Liwei Yan, Sun Yat-sen University, Guangdong, China
7) Negar Motayagheni, Wake Forest Institute for Regenerative Medicine, USA
8) Paweena Diloksumpan, Utrecht University, Netherlands
9) Ricardo Ribeiro, New castle Univerisity, UK
10) Rong Wang, Maastricht University, Netherlands
11) Sejeong Yoon, Pohang University of Science and Technology, South Korea
12) Yufei Ma, Xi'an Jiaotong University, China

ISBF Awards Committee:

Giovanni Vozzi (Chair), University of Pisa, Italy
David Dean, The Ohio State University, USA
Paul Dalton, University of Würzburg, Germany
Roger Narayan, UNC School of Medicine, USA
Sang Jin Lee, Wake Forest School of Medicine, USA
Utkan Demirci, Stanford University, USA

WFIRM Young Investigator Award at the 2017 Biofabrication Conference

Awardee: Miguel Castilho, PhD

Miguel Castilho, PhD
Postdoctoral Researcher
Department of Orthopaedics, UMC Utrecht, Netherlands
Department of Orthopaedic Biomechanics, Eindhoven University of Technology
Netherlands

Miguel Castilho is a postdoctoral researcher at the Department of Orthopaedics, UMC Utrecht, Netherlands, and at the Department of Orthopaedic Biomechanics, Eindhoven University of Technology, Netherlands. Originally from Lisbon, Portugal, and trained as a mechanical engineer, he completed his PhD studies in biomedical engineering (*cum laude*) in 2015, at the Technical University of Lisbon, Portugal. Between 2012 and 2014, he was a visiting research scholar at the University of Würzburg, Germany, and worked in a biomaterials company for the development and CE marking of tissue-engineered bone substitutes. He is currently researching the generation of cartilage and bone tissue equivalents by applying innovative bioprinting technologies, and simultaneously he is a teacher at the first international Masters in Biofabrication, at Utrecht University. Miguel has published his research in high impact journals within the field of biomanufacturing and bioprinting and he is an active contributor to international scientific conferences in the field.

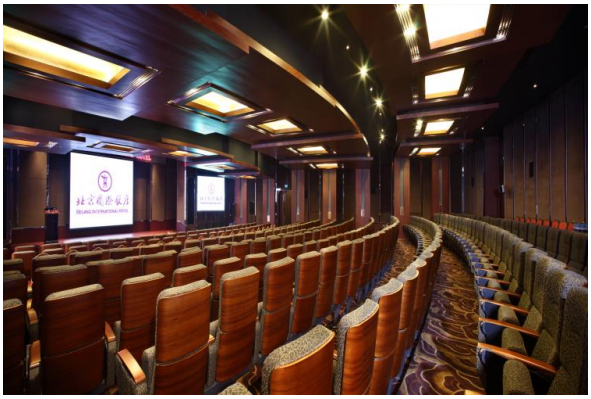
IOP Poster Award at the 2017 Biofabrication Conference

The winner will be announced at the Biofabrication Conference.

General Information

Conference venue

Beijing International Hotel Convention Center (Beijing Jianguo International Conference Center)
No.9 Jianguomennei Street, Dongcheng District, Beijing, China
The Beijing International Hotel Convention Center located in downtown Beijing, Chang'an Avenue, surrounded by an outdoor garden, has more than 20 conference sites. The Zijin hall on the third floor can accommodate thousands of people meeting activity. Besides the high-speed transmission system, simultaneous interpretation and multi-media projector, conference center also provides professional audio, video and other services, for different international convention and exhibition activities.

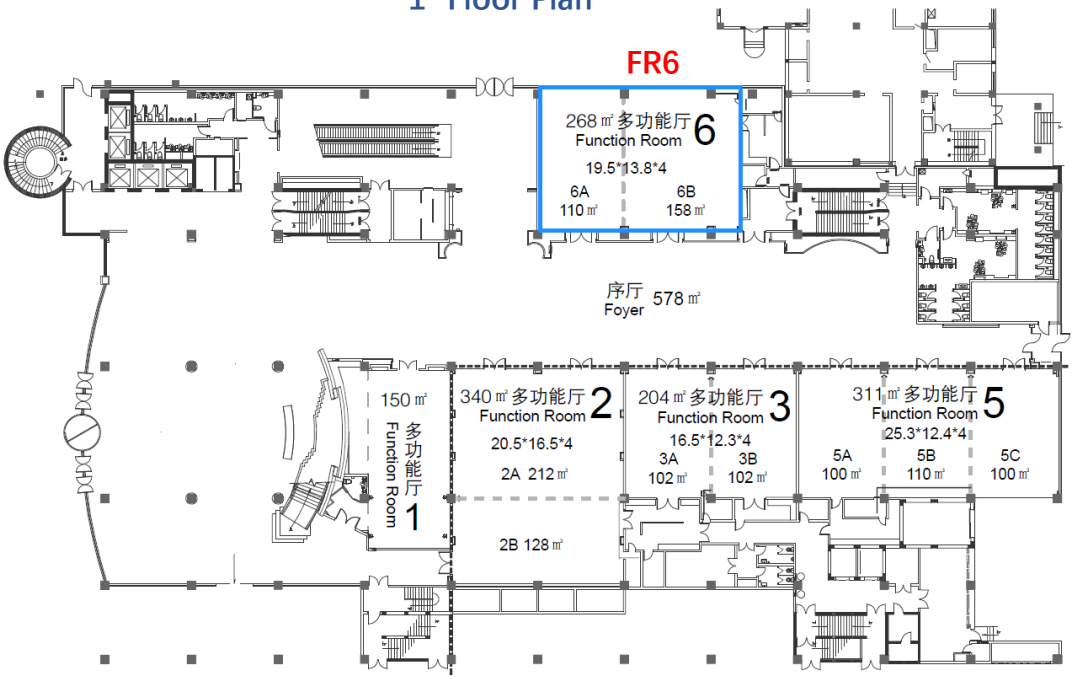


Auditorium, Maximum Capacity: 300

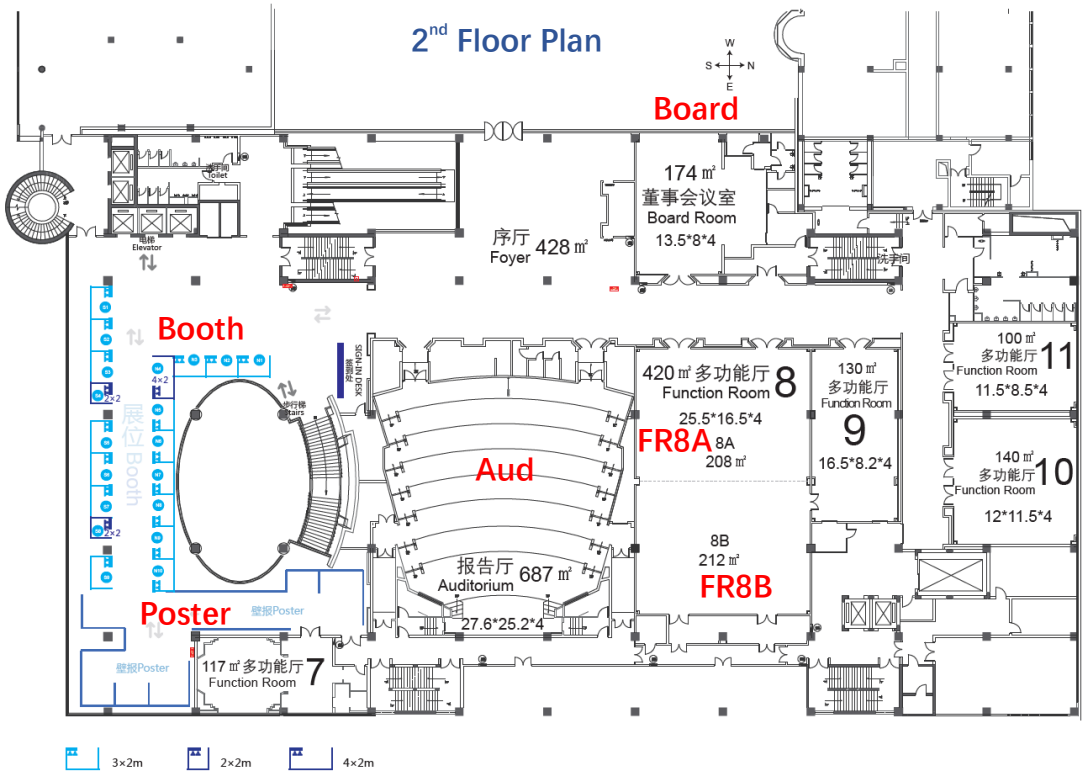
Multi-function room, Maximum Capacity: 200

Floor Plan - Beijing International Hotel Convention Center

1st Floor Plan



2nd Floor Plan



Transportation

From airport：

Taxi:

Terminal 1: Outside Gate 1 on F1

Terminal 2: Outside Gate 5 to 9 on F1

Terminal 3: Please refer to the signs inside the terminal building

Airport Express:

Time table:

Terminal 2: 06: 35-23: 10

Terminal 3: 06: 20-22: 50

Interval: 10 minutes

Please get off at Dongzhimen Station, then transfer to subway line 2 and get off at Jianguomen Station. Get out from ExitA, walk westward around 8 minutes to hotel.

From Beijing railway station：

Toward to North, Walk around 8 minutes to hotel.

Accommodation

Beijing International hotel★★★★★

Address：No.9 Jianguomennei Street, Dongcheng District, Beijing, China

Telephone：+86 010-516 55520

Website：www.guoji-beijing.com

The Beijing International Hotel is the only official accommodation organizer for Biofabrication2017. We have secured a limited number of reduced-rate hotel rooms in the Beijing International Hotel for October 14-18, 2017. The special room rate will be available until the group block is sold-out.

Nearby Hotels

Hu'nan Hotel ★★★★☆

Address: No.9, Beijing Railway Station Street, Dongcheng District, Beijing, China

Distance: 510 meters from The Beijing International Hotel Convention Center

Website: http://english.ctrip.com/hotels/beijing-hotel-detail-431373/hunan-hotel/

Jianguo Garden Hotel ★★★★★

Address: No. 17 Jianguomennei Avenue, Dongcheng District, Beijing, China

Distance: 660 meters from The Beijing International Hotel Convention Center
Website: http://english.ctrip.com/hotels/beijing-hotel-detail-427874/jianguo-garden-hotel/
JW Marriott Hotel Beijing ★★★★★
Address: No. 7 Jianguomen South Street, Dongcheng District, Beijing, China
Distance: 930 meters from The Beijing International Hotel Convention Center
Website: http://english.ctrip.com/hotels/beijing-hotel-detail-391655/jw-marriott-hotel-beijing/

Wireless network

There is a free WiFi named “hotel” in Beijing International Hotel Convention Center.

Travel Tips

Weather

Average temperature in October：8C°~19C°

Electricity

The electric current used in China is 220V 50Hz. Hotels provide 220V and 110V (shavers only) power outlets. Please note that plug adapters and converters might be required.

Currency and Exchange

The currency used in China is the Renminbi Yuan (RMB or ￥) and the value is pegged to the US dollar with a current exchange rate of US$ 1: RMB 6.8 (December 2016). The Yuan is divided into 10 Jiao or 100 Fen. Notes come in denominations of ￥100, 50, 20, 10, 5 and 1. Exchange your leftover Yuan before returning home as it can only be exchanged within China's borders.

Euros and US Dollars can be exchanged at your hotel or at any bank. Traveler’s checks can only be exchanged at the Bank of China. Banks usually open from 9 a.m. to 5 p.m. From Monday to Friday and 9 a.m. to 4 p.m. on Saturday and Sunday. Currency exchange services are available for the following foreign currencies: US Dollar, British Pound Sterling, Euro, Japanese Yen, Australian Dollar, Canadian Dollar, Hong Kong Dollar, Swiss Franc, Danish Krone, Norwegian Krone, Swedish Krone, Singapore Dollar, Malaysian Ringgit, and Macao Pataca.

Major credit cards are accepted at many establishments, such as American Express, Diners Club, JCB, Master Card and Visa.

Insurance

Organizers of the Congress do not take any liability for personal accidents or injury or loss or damage to private property of any participant indirectly arising from travelling to Beijing and/or attending the Congress. Participants are advised to purchase adequate travel and health insurance before leaving their own countries.

Safety and Security

In general China is a very safe country. However, be aware of pickpockets and be careful when crossing the road. Passports should be kept in the hotel for safety until the departure day. Also, note the serial numbers of your traveler’s checks if you carry those. We also recommend having copies of your passport and credit cards with you in case of loss or theft.

Time

China covers four time zones. Beijing time is the only official time throughout the country; punctuality is highly appreciated.

Transportation

Public Buses

Buses are the main means of transport in Beijing. Please prepare small bills as not all buses will carry change. Buses can be very crowded during peak times, which are generally from 7-9 a.m. and 4-6 p.m.

The Subway

The subway system in Beijing has 15 lines. The fare is 3 - 9 yuan. Trains run from 5:30 in the morning until 11:00 in the evening. A ticket can be bought at the ticket office at each station or at an automatic ticketing machine. Subway stops are announced over the subway's speaker system in Chinese and English.

Taxis

You can easily find Taxis in every part of Beijing. All Taxis will charge 2.3 yuan per kilometer with a base rate or minimum charge of 13 yuan.

About Beijing

Beijing, the capital of the People's Republic of China, is one of the most populous cities in the world. The city is not only a political, cultural, and educational center, but also a modernized historic city, now endowed with world-class convention centers, advanced facilities, beautiful hotels and resorts.

Governed as a municipality under the direct administration of the national government, Beijing is divided into 16 districts. It is a major transportation hub, with dozens of railways, roads and motorways passing through the city. It will be really convenient for you to reach most of the places of interests, such as the renowned palaces, temples, gardens, tombs, walls and gates, and so on. You will absolutely have a great time here.

Note