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4th International Conference on
**Synthetic Biology and
Tissue Engineering**

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Design and construct new
biological parts for novel functions

Put Electrospun Nanofibers to Work for Regenerative Medicine

Jingwei Xie

University of Nebraska
Medical Center
USA

Jingwei Xie received his B.S. and M.S. degrees in 1999 and 2002, respectively, from the Department of Chemical Engineering, Nanjing University of Technology. He then continued his Ph.D. study in the Department of Chemical and Biomolecular Engineering, National University of Singapore. He received his Ph.D. in June 2007, and immediately joined Prof. Younan Xia's group as a postdoctoral research associate in Department of Biomedical Engineering at Washington University in St. Louis (2007-2010). He then worked as senior scientist in the Marshall Institute for Interdisciplinary Research at Marshall University (2011-2013). He is currently an Assistant Professor in the Department of Surgery-Transplant and Holland Regenerative Medicine Program at University of Nebraska Medical Center (2014 – now). His research interests include micro- and nanofabrication, biomaterials, drug delivery, regenerative medicine, and tissue engineering.

Initial results of a pilot trial of tissue engineered myringoplasties in Western Australia

Harvey Coates

The University of Western
Australia

Professor Harvey Coates AO is a paediatric otolaryngologist and Clinical Professor in the School of Paediatrics and Child Health at the University of Western Australia. He trained at the Mayo Clinic, USA and has several research degrees and over 100 publications. His research is in otitis media in Aboriginal children and his team discovered the first middle ear biofilm as well as intracellular bacteria and NETs in the middle ear. His most recent research has been to trial tissue engineered myringoplasties in children, a major issue in Australia where over 100,000 people have CSOM. He has been awarded many community honours for his work with Aboriginal children's ear disease.

Combinational High-throughput Screening of Physical Niches Supporting iPSC-derived Hepatocyte Maturation

MIN SUN

University of Antioquia
Singapore

Min Sun graduated from Nankai University in Tianjin, China with a B.S.c majored in biological sciences. She then went to Singapore to pursue her PhD studies in National University of Singapore under Professor Henry Yu. As a PhD candidate, her current research interest is to use materiomics approach to understand more the effect of physical factors on hepatocyte differentiation/maturation thus providing a better cell source for liver tissue engineering. Initially trained in biology, she now works in a multi-disciplinary team dedicated on mechanistic understanding, computational modeling and translational application in liver tissue engineering.

Treatment of articular cartilage lesion of the knee: biopolymer hydrogel and microfracture versus microfracture only technique

Gennaro Pipino

Villa Regina Hospital
Italy

Prof Gennaro Pipino is a specialist in orthopedics and traumatology, Head of Orthopedics at Villa Regina Hospital, Ordinary Professor of Orthopedics at LUDES HEI Malta Campus Lugano. He is a Specialist in knee, hip and shoulder disorders and in cartilage transplants.

Combined Jellyfish Collagen type II, Human Stem Cells and TGF- β 3 as a Therapeutic Implant for Cartilage Repair

Marion Pugliano

The Inserm UMR1260 Regenerative
NanoMedicine Laboratory
France

Second year PhD student in the Inserm UMR1260 Regenerative NanoMedicine Laboratory, in Strasbourg France, working on the development and the optimisation of an implantable medical device for the regeneration of the entire osteochondral unit. Also graduated with a Physiopathology Master of Science, a Cellular Biology and Physiology Licence/Bachelor of Science, and a two-year technical degree in Biotechnologies.

The therapeutic effect of rat olfactory ensheathing cell transplantation on posttraumatic cysts of the spinal cord

Olga Stepanova

National Medical Research Center for
Psychiatry and Narcology
Russian Federation

Stepanova Olga works in the field of the regenerative medicine. She studies the resident stem / progenitor cardiac and neural cells. She demonstrated that the heart of the patients with heart failure due to dilated cardiomyopathy contains the progenitor resident cardiomyocytes and dedifferentiated cardiomyocytes. These cardiac cells possibly can proliferate and differentiate to mature cardiomyocytes and recover heart function and structure after injury. She found that myosin activating protein kinases may contribute in myofibril formation during the cardiomyocyte differentiation. Now she is actively working in the field of investigation of olfactory mucosa neural stem / progenitor and ensheathing cells. Development of methods for obtaining the cell cultures from the olfactory mucosa and the study of the therapeutic efficacy of these cells in experimental posttraumatic spinal cord cysts will create the preconditions for their successful application in the treatment of patients with posttraumatic cysts of spinal cord.

SPEAKER SLOTS AVAILABLE

In vitro determination of the antimicrobial potential of genetically modified human keratinocytes and fibroblasts with a non-viral system, against strains of Staphylococcus aureus and Pseudomonas aeruginosa

Maria Isabel Patialo
University of Antioquia
Colombia

Maria Isabel Patiño is a Microbiologist and Bioanalyst from the University of Antioquia. Her experience has been focused on scientific research, and, currently, she is a member of the Tissue Engineering and Cell Therapy Group. As a PhD student, with a student loan from COLCIECIAS (scholarship Program No.727 of 2015), she has been working on the development of a non-viral transfection system of human fibroblasts and keratinocytes, incorporated in an 3D skin model in order to over-express the antimicrobial peptide LL 37 as a strategy for the treatment of skin wounds.

Cytokine release in human skin equivalents cultures for the assessment of irritation

Catalina Gaviria
University of Antioquia
Colombia

Catalina Gaviria is a Bioengineer with a master's degree in Biomedical Engineering from the Polytechnic University of Turin. Her experience has been focused on scientific research, and, currently, she is a member of the Tissue Engineering and Cell Therapy Group. As a PhD student, with a student loan from COLCIENCIAS (scholarship Program No.727 of 2015), she has been working on the development of human skin equivalents for toxicity screening.

Biomimetic Porous Collagen Scaffold for Bone Tissue Engineering

Alda Marria Malagon Escandon
Universidad Nacional Autónoma de México

Alda Malagón is a Ph.D. student in Biomedical Science Program at The National Autonomous University of Mexico with broad interests in biomaterials, medicine regenerative, stem cells.

SPEAKER SLOTS AVAILABLE

Bioimaging of stem cells for cellular therapies in post-infarction heart

Maciej Kurpisz

Institute of Human Genetics, Pol.
Acad. Sci. Poznan, Poland

Professor Kurpisz has been Head of Department of Reproductive Biology and Stem Cells, Institute of Human Genetics, Pol. Acad. Sci. Poznan, Poland. He graduated Poznan Medical University. Then he was promoted as MD in Immunology and Ph.D. in Genetics, since 1996 a full professor. He performed professional training in UK, USA, Japan and Germany. His clinical practice includes experimental cardiology, reproductive immunology, infertility and anti-aging. His experimental therapy is dedicated to regenerative medicine, mainly stem cell implementation in heart and muscular dystrophies. He has published over 409 papers, 217 referred in PubMed, successfully sought 69 grants, supervised 14 doctorates and 30 masters. He is a member of board of 11 international journals and recipient of 20 professional awards. He also received an Honorary Doctorate (*honoris causa*) from Lviv Medical University. Citations (Web of Science): over 2800 (without self-citations), H-index: 29, total IF over 400.

Transcriptional activity of epigenetic remodelling genes in human skin and regenerative capacity

Jolanta Kamińska

Gdańsk University of Technology,
Poland

Paweł Sachadyn completed his PhD dissertation in the field of molecular biotechnology at the Faculty of Chemistry of the the Gdansk University of Technology in 2000. His present studies are focussed on molecular basis of mammalian regeneration, including the epigenetic aspects of regenerative potential and novel methods for pharmacological stimulation of regeneration processes. He is an associate Professor at the Faculty of Chemistry, Gdańsk University of Technology and the leader of the Laboratory for Molecular Basis of Regeneration.

On the prospect to fabrication of Cs/Bg/CNT nanocomposite scaffold and evaluation of its properties

Behrooz Movahedi

University of Isfahan, Iran

DR. BEHROOZ MOVAHEDI, Associate professor at Department of Nanotechnology Engineering, Faculty of Advanced Sciences and Technologies, University of Isfahan. He has been working over 10 years of experience in the nanotechnology, amorphous materials, optical ceramics and advanced thermal spray coatings for environmental and industrial applications.

SPEAKER SLOTS AVAILABLE

Stem Cells and Regenerative Medicine: The Potential Aspects in Cardiovascular System

Mohammad Reza Hashemzadeh

Royesh Stem Cell Biotechnology
Institute
Iran

Mohammad Reza Hashemzadeh started his research studies on stem cells from 2005. In 2010, He founded the first biotechnology institute in the ministry of labor and social welfare of Iran, with cooperative of Khorasan Technical and Vocational Training Organization, in Mashhad called Eram biotechnology institute and now he is the head of stem cell department in that institute. Furthermore, He is the founder and director of ROYESH Stem Cell Biotechnology (RSCB) institute in Mashhad. He is interested in stem cells and regenerative medicine especially in cardiovascular diseases. His recent study is the evaluation of TLRs during cardiomyocyte differentiation in order to optimization of regenerative medicine in cardiovascular diseases. Also study of homing of adipose derived MSCs, study of gene regulation in stem cells based on miRNAs and siRNA and identification of a new stem cell line in Rabbit namely blastema stem like cells are another researches which he has done.

Vildagliptin enhances differentiation of insulin producing cells from adipose-derived mesenchymal stem cells

samaneh Karimi

Ahvaz Jundishapur University of
Medical Sciences, Iran

Samaneh Karimi has completed her M.Sc. at the age of 27 years from Golestan University of Medical Sciences and Ph.D. studies from Ahvaz Jundishapur University School of Medicine. She is Assistant Professor of Anatomy in Abadan University of Medical Sciences.

Stabilization of Growth Factor(EGF, TGF- β , BMP-2) using Natural Polymer Derivatives containing Photo-Curable Functional Groups

Tae Il Son

Chung-Ang University
South Korea

Tae Il Son was as awarded the degree of PhD by Tokyo Institute of Technology, Japan in 1989. He is a Professor in the Department of Systems Biotechnology, Chung-Ang University. He was Visiting Scholar at North Carolina State University, USA in 1998 and RIKEN, Japan in 2007. He has served as President of the Korean Society for Chitin and Chitosan. He is currently the Director of Biomaterial Field in the Korean Society of Industrial and Engineering Chemistry (KSIEC) in Republic of Korea. He has been involved in research for medical applications using natural polymer derivatives for over 30 years. He has published more than 100 papers in reputed journals.

SPEAKER SLOTS AVAILABLE

Development of a bioprinted 3D model of aortic valve leaflet seeded with human valvular interstitial and endothelial cells

Elena Butoi

University of Bucharest
Romania

Dr. Elena Butoi graduated Faculty of Physics, University of Bucharest and obtained her PhD in Biological Sciences in 2008 at ICBP-NS. Since 2014 she is scientific researcher grade I at ICBP-NS and head of "Cell Adhesion" laboratory in the "Biopathology and Therapy of Inflammation" Department. Her group focuses on the effects of cross-talk between immune cells and vascular cells in progression of atherosclerosis and other cardiovascular disorders in normal or diabetic conditions. She has published more than 28 papers in ISI journals. Since 2017 she is involved in an interesting project aiming to uncover relevant diabetes-related alterations in aortic valves by developing *in vitro* 3D-printed model of aortic valve leaflet seeded with human valvular cells.

Development of a bioprinted 3D model of aortic valve leaflet seeded with human valvular interstitial and endothelial cells

Sajan George

University of Bucharest
Romania

Sajan George is an enthusiastic researcher in infectious diseases, cancer and stem cell biology. He has functioned as a veterinarian and clinical researcher in industry as well. He has been involved in Phase II clinical trials of anti-fungal drugs in canines and pharmacokinetic testing of liposomal anti-cancer drugs in non-human primates. His research towards the comparison of *Mycobacterium* spp. harboring dairy cows' and *in vitro* infected macrophages has unveiled the adaptations of pathogen for survival and virulence. He master's thesis has identified the effect of feed antibiotics on weanling piglets using functional genomics and proteomics approaches. His doctoral research activity is differentiation of Adipose Stem Cells (ASCs) to functional neurons using low-level laser irradiation.

Articular cartilage tissue engineering and regenerative medicine

Laila M Montaser

Menoufia University
Egypt

Laila Montaser, is Professor of Clinical Pathology at the School of Medicine in Shebin El-Kom, Menoufia, Egypt. She also serves as the Head, Founder of Clinical Pathology Department, School of Medicine, Menoufia University, Egypt. She received her undergraduate degree at School of Medicine, Alexandria University, Egypt, and her M.Sc. & MD degrees at School of Medicine, Tanta University. She is President, Chief Scientist, founder of Stem Cell, Regenerative Medicine, Nanotechnology and Tissue Engineering (SRNT) Group. She is the nominator of Council of Menoufia University to TWAS prize in Medical Sciences and nominator of Menoufia Faculty of Medicine to Award of Nano Science Research Excellence. She is a member of several international & national societies. She appointed as an editorial board member/peer reviewer of many International Journals.

Wound healing dual-support by Adipose Derived Stem Cell Conditioned Medium (ADSC-CM) impregnated scaffold made from Amniotic membrane

**Muhammad
Shahbaz Aslam**

University of the Punjab
India

Mr. Muhammad Shahbaz Aslam obtained BSc (Hons) in Biochemistry and MS in Biochemistry from Institute of Biochemistry & Biotechnology, University of the Punjab, Lahore. He joined the same Institute as Lecturer in March, 2008 and along with he is also doing PhD in Biochemistry. He has published 22 articles in journals of national/international repute and supervised 11 MS, 18 MSc and 20 BS students up till 2016. He has been working on different research projects in the field of Molecular Biology and Immunology.

Exploring unique compounds from lignin degradation using Mutated Dyp-type peroxidase enzymes.

**Sharon Mendel
Williams**

Coventry University, UK

Biography

Sharon Mendel Williams joined Coventry University as a Lecturer in the School of Life Sciences in the year 2014. She has worked as a Post-doctoral Research Fellow in both departments of Chemistry and Biology, Warwick University. Her research focuses on biophysics and biochemistry of proteins, and understanding the mechanisms of enzymes. She has a wide range of experience in molecular biology, biochemistry, and chemistry. She is a member of the Royal Society of Chemistry and has been awarded a grant from the RSC research fund to accomplish her research work.

Investigating the thermostability and activity of Dyp1b manganese active-site mutants from *Pseudomonas fluorescens* Pf-5 towards lignolytic substrates.

**Austine O
Ehibhationmhan**

University of Coventry, UK

Biography

Austine Ehibhationmhan has just graduated with first class honors in Biomedical Sciences from Coventry University. He is currently completing his Masters in Research in Industrial Biochemistry/Biotechnology and aspiring to complete a doctorate in the same field.

SPEAKER SLOTS AVAILABLE

Combining 2D angiogenesis and 3D Osteosarcoma micro tissues to improve vascularization

Hassan Chaddad

Strasbourg University
France

Biography

Hassan Chaddad has completed his Pharmacy degree from Lebanese International University (LIU) and his Masters in Pharmacology from USEK University and now he is doing his doctoral studies (PhD) from Strasbourg University Faculty of Medicine.

Programmable Organoids and the Cell-Cell Communication Tool Box: The synthetic design and implementation of short and long range mammalian cell to cell communication systems for use in differentiating organoids.

Katherine Kiwimagi

Massachusetts Institute of Technology
USA

Biography

Katherine Kiwimagi has completed her PhD in Biomedical Engineering at Colorado State University and is currently working on postdoctoral studies at Massachusetts Institute of Technology in the department of Bioengineering. Her published work is focused on the interplay of *in silico*, *in vitro* and *in vivo* studies where she has developed both experimental and computational tools with applications in many biological systems. Her current work focuses on cell-cell communication tools for mammalian systems with the application of creating spatio-temporal patterns to directed organoid differentiation.

Evolution of Microbial Quorum Sensing to Human Global Quorum Sensing: An Insight into How Gap Junctional Intercellular Communication Might Be Linked to the Global Metabolic Disease Crisis

James E. Trosko

Michigan State University,
USA

Biography

Dr. Trosko was Summa Cum Laude, CMU (1956), was a NDEA Predoctoral Fellow, from 1960-63, at Oak Ridge National Lab, and was a Postdoctoral Fellow from 1963-64. He also was an American Cancer Society, Postdoctoral Fellow from 1965 to 66. He received the Teacher-Scholar Award from MSU in 1970, the NCI-Research Career Development Award from 1972-to 77, the Searle Award from U.K. Dr. Trosko has received a Korean Ministry of Education, Science and Technology "World Class University" award to do research at Seoul National University as an Invited Research Professor on human adult stem cells for two months during 2010 & 2011.

SPEAKER SLOTS AVAILABLE

Using synthetic chromosomes to study centromere epigenetics in human cells

Elisa Pesenti

University of Edinburgh,
United Kingdom

Biography

Elisa has completed her PhD at the age of 27 from University of Genova (Italy) after a Master in Biotechnology. During her PhD she took part in different projects in molecular immunology and cell biology. She did part of her research project at the Albert Einstein College of Medicine (NY). She recently joined the Synthetic Biology community as Postdoctoral Research Associate at the Centre for Mammalian Synthetic Biology at the University of Edinburgh in prof. William Earnshaw's lab, where she's developing new class of Human Artificial Chromosomes (HACs).

Differentiation of Mesenchymal Stem Cells Derived from Umbilical Cord Blood into Hepatocyte

Nagwan A. Sabek

Suez Canal University
Egypt

Biography

Nagwan A. Sabek is Assistant Professor of Medical Biochemistry, Faculty of Medicine, Suez Canal University, Egypt

Microfluidics as a novel technology to produce bio-mimics

Naresh Yandrapalli

Max Planck Institute of Colloids and
Interfaces,
Germany

Biography

Naresh Yandrapalli has completed his PhD at the age of 29 years from University fo Montpellier, France and is currently doing his postdoctoral studies for the past one and half a year in Max Planck Institute of Colloids and Interfaces, Potsdam, Germany.

SPEAKER SLOTS AVAILABLE

Genetics and Control of Fruit Ripening and Improving of Shelf Life

Selman Uluisik

Burdur Mehmet Akif Ersoy
University,
Turkey

Biography

Selman Uluisik has completed his PhD at the age of 28 years from Nottingham University Plant Science Department. He did his work on improvement of fruit quality by RNAi silencing and QTL Mapping. He is currently working in Burdur Mehmet Akif Ersoy University as a Assistant Prof. He is interested in QTL Mapping, genetic modifications in fleshy fruits.

Rational design for further advancement of E. coli expression systems

Gerald Striedner

Austrian Center of Industrial
Biotechnology (ACIB),
Austria

Biography

Gerald Striedner is an Associate Professor at the Department of Biotechnology (BOKU), head of the working group microbial fermentation and principal investigator in the Austrian Center of Industrial Biotechnology (ACIB). The working group has established an integrated systems approach for bioprocess development and is focused on the implementation of PAT and QbD concepts in bioprocessing and rational host cell design. CHO, E. coli, insect cells and vero cell lines are used as expression systems for production of a representative set of biopharmaceuticals (mABs, Fabs, scFvs, VLPs, viruses, DNA)

Investigating the nexus between DNA repair pathways and genomic instability in cancer

Sonali Bhattacharjee

Cold Spring Harbor Laboratory,
USA

Biography

Dr. Bhattacharjee did her B.Sc in Biotechnology from Bangalore University in 2006 and M.Sc in Applied Genetics from Bangalore University in 2008. She then moved to England to pursue her DPhil (Phd) in Biochemistry from Oxford University where she studied the role of Fml1 and its partner proteins Mhf1 and Mhf2 in promoting genome stability. She was awarded her DPhil in 2012. During her time at Oxford, she was also a tutor at Greene's College, Oxford. In 2013, Dr. Bhattacharjee moved to Cold Spring Harbor Laboratory, New York. At CSHL, her work has focused on understanding the epigenetic regulation of DNA repair. She is also an academic tutor at the Watson School of Biological studies, the school for graduate studies at CSHL.

SPEAKER SLOTS AVAILABLE

Genetic identification by cytogenetic and molecular biology techniques of sexual ambiguities in Algerian population.

Wefa BOUGHRARA

Department of Human Health,
Algeria

Biography

Boughrara Wefa Preparatory School in the Science of Nature and Life of Oran (EPSNVO) (Molecular Biology: Human Health) Oran, Algeria

Amino Groups Are Crucial For Chitosan To Stop Bleeding

Haibo Lu

Chinese PLA General Hospital,
China

Biography

Haibo Lu has completed his PhD at the age of 34 years from General Hospital of Chinese PLA. He has his expertise in wartime extremity vascular injury rescue, surgical treatment for senior hip fracture and bone-allograft scaffolded tissue engineering. Most of his innovation are derived from clinic problems and factual demands from combat environment. His contexture innovation of vascular shunt might be a novel attempt to vascular repairing.

SPEAKER SLOTS AVAILABLE