Scientific Program

Venue: Zoom Platform

September 24, 2021

8:30 – 9:00 (Central Standard Time, CST or GMT-5); 15:30-16:00 (GMT+2)

INAUGURATION WELCOME ADDRESS

Paolo Di Nardo, MD, Conference Chair

Sanjiv Dhingra, PhD, Conference Chair

09:00 – 09:40 (CST); 16:00-16:40 (GMT+2)

KEY-NOTE ADDRESS

Session Chair:

Michael Czubryt, PhD, St. Boniface Hospital Albrechtsen Research Centre, University of Manitoba, Winnipeg, Canada

Key-note speaker: Michael Rudnicki, PhD
(Regenerative Medicine Program/Sprott Centre for Stem Cell Res., Ottawa, Canada)
Modulating muscle stem cell self-renewal to enhance regenerative myogenesis to treat neuromuscular disease

09:40-11:20 (CST); 16:40-18:20 (GMT+2)

FUTURE OF STEM CELLS-BASED TECHNOLOGIES

Chairs
Ian Dixon MD, (IM Sechenov First Medical University, Moscow, Russia)
Paolo Di Nardo, MD, (University of Rome, Italy)

09:40-10:00 (CST); 16:40-17:00 (GMT+2)
Antonio Musaro, PhD (University of Rome La Sapienza, Italy)
Muscle homeostasis and regeneration: From cellular and molecular mechanisms to therapeutic opportunities

10:00-10:20 (CST); 17:00-17:20 (GMT+2)
Rajasingh Johnson, PhD (University of Tennessee, USA)
Human induced pluripotent stem cell-derived mesenchymal stem cells for regenerative therapy

10:20-10:40 (CST); 17:20-17:40 (GMT+2)
Laura Perin, PhD (University of Southern California, Los Angeles, USA)
Understanding mechanism of renal regeneration: the human glomerulus on a chip and spatial transcriptomic

10:40-11:00 (CST); 17:40-18:00 (GMT+2)
Young-sup Yoon, MD, PhD (Biomedical Engineering Emory University, Atlanta, USA)
Cardiovascular Regeneration with Stem Cells and Direct Reprogramming

11:00-11:20 (CST); 18:00-18:20 (GMT+2)
Kamil Can Akcali, MD, PhD (Stem Cell Research Institute, Ankara University, Turkey)
New era for the application of stem cells: Cultivated meat

11:20-13:00 (CST); 18:20-20:00 (GMT+2)

ADVANCES IN REGENERATIVE MEDICINE

Chairs
Evzen Amler, PhD (Charles University, Czech Republic)
Jeffrey Wigle, PhD (University of Manitoba, Winnipeg, Canada)

11:20 – 11:40 (CST); 18:20-18:40 (GMT+2)
Prasanna Krishnamurthy, PhD (University of Alabama, Birmingham, USA)
Cellular communications gone wrong: exosome role in cardiac regeneration and repair

11:40 – 12:00 (CST); 18:40-19:00 (GMT+2)
Simona Ceccarelli, PhD (Regenerative Medicine Unit, University of Rome La Sapienza)
Cell-based therapies in regenerative medicine: perspectives and new advances for women's health

12:00 – 12:20 (CST); 19:00-19:20 (GMT+2)
Suresh Verma, PhD (University of Alabama, Birmingham, USA)
Stem cells derived exosomes for cardiac regeneration and repair

12:20 – 12:40 (CST); 19:20-19:40 (GMT+2)
Valeria Chiono, PhD (Politecnico di Torino, Italy)
Applying bioengineering tools in microRNA-mediated direct reprogramming of human cardiac fibroblasts towards the cardiac phenotype

12:40 – 13:00 (CST); 19:40-20:00 (GMT+2)
Alice A. Tomei, PhD (University of Miami, USA)
Regenerative medicine platforms for type-1 diabetes

13:00 – 14:00 (CST); 20:00-21:00 (GMT+2)

Young Investigators in Tissue Engineering

Chairs
Zahra Moussavi, PhD, (University of Manitoba, Winnipeg, Canada)
Danish Sayed, MD, PhD (New Jersey Medical School, Rutgers, USA)

13:00 – 13:10 (CST); 20:00-20:10 (GMT+2)
Flavia Forconi, (University of Rome La Sapienza, Italy)
Design and realization of a 3D NMJ model as a novel tool for studying pathological alterations in neuromuscular diseases: preliminary results

13:10 – 13:20 (CST); 20:10-20:20 (GMT+2)
Weiang Yan, (St. Boniface Hospital Research Centre, Winnipeg, Canada)
Title: Smart Tantalum Carbide MXene Quantum Dots with Intrinsic Immunomodulatory Properties for Treatment of Allograft Vasculopathy

13:20 – 13:30 (CST); 20:20-20:30 (GMT+2)
Arslan Ul-Haq, (CIMER, University of Rome Tor Vergata)
Biodegradable Conductive Scaffolds for Cardiac Tissue Engineering Applications

13:30 – 13:40 (CST); 20:30-20:40 (GMT+2)
Francesca Pescosolido, (CIMER, University of Rome Tor Vergata)
Composite materials to prevent the microorganism adhesion on surfaces

13:40 – 13:50 (CST); 20:40-20:50 (GMT+2)
Michael Hanna, (New Jersey Institute of Technology, USA)
Elucidating the link between cytoskeleton and store Operated Calcium Channels (SOCE) in Traumatic Brain Injury

13:50 – 14:00 (CST); 20:50-21:00 (GMT+2)
Marina Shchedrina, (IM Sechenov First Medical University, Moscow, Russia)
Materials based on the gel-forming biopolysaccharides for the treatment of wounds

14:00 – 15:00 (CST); 21:00-22:00 (GMT+2)

Innovations and Technology Commercialization

Chairs
Nirmal Robinson, PhD (University of Adelaide, Australia)
Vincenzo Desiderio, PhD (University of Naples, Italy)

14:00 – 14:20 (CST); 21:00-21:20 (GMT+2)
Bram Ramjiawan, PhD (St. Boniface Hospital Research Centre, Winnipeg, Canada) Monetizing the research

14:20 – 14:40 (CST); 21:20-21:40 (GMT+2)
Elisabetta Cattaneo, PhD (Notarbartolo & Gervasi, Naples, Italy)
Patenting in the pharmaceutical world

14:40 – 15:00 (CST); 21:40-22:00 (GMT+2)
Elisabetta Zaccaro, PhD (Notarbartolo & Gervasi, Naples, Italy)
Journey from biological and cellular discoveries to patents

Scientific Program

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September 25, 2021

08:30–10:10 (CST); 15:30-17:10 (GMT+2)

Stem Cells and Biomaterials for Regenerative Medicine

Lorrie Kirshenbaum, PhD, St. Boniface Hospital Research Centre, University of Manitoba, Canada
Sanjiv Dhingra, PhD, St. Boniface Hospital Research Centre, University of Manitoba, Canada

08:30-08:50 (CST); 15:30-15:50 (GMT+2)
Milica Radisic, PhD (Institute of Biomaterials and Biomedical Engineering, Toronto, Canada)
Heart-on-a-chip and disease modelling

08:50-09:10 (CST); 15:50-16:10 (GMT+2)
Acelya Yilmager, PhD (Stem Cell Research Institute, Ankara University, Turkey)
2D Materials in Neural Tissue Regeneration

09:10-09:30 (CST); 16:10-16:30 (GMT+2)
Lucia Delogue, PhD (University of Padua, Italy)
2D materials from immune interactions to biomedical applications

09:30-09:50 (CST); 16:30-16:50 (GMT+2)
Sara Vasconcelos, PhD, (Institute of Biomaterials and Biomedical Engineering, Toronto, Canada)
Microvessels support engraftment and functionality of human islets and hESC-derived pancreatic progenitors in diabetes models

09:50-10:10 (CST); 16:50-17:10 (GMT+2)
Hania Ammar, MD, PhD (Cairo University, Egypt)
Stem cell therapy for diabetic cardiomyopathy

10:10 – 11:50 (CST); 17:10-18:50 (GMT+2)

Trends in Regenerative Medicine

Chairs

Balwant Tuana, PhD, (University of Ottawa, Canada)
Jan Kyselovic, PhD, (Comenius University, Bratislava, Slovakia)

10:10 – 10:30 (CST); 17:10-17:30 (GMT+2)
Staphanie Willerth, PhD (Department of Biomedical Engineering, Victoria, Canada)
3D bioprinting complex neural tissue models

10:30 – 10:50 (CST); 17:30-17:50 (GMT+2)
Valentina Mussi, PhD (Institute of Microelectronics and Microsystems, Rome, Italy)
Novel diagnostic platform: exploiting the potential of disordered nanostructures for rapid, label-free and low-cost analysis of genomic DNA

10:50 – 11:10 (CST); 17:50-18:10 (GMT+2)
Giulia Gerini, PhD (University of Rome La Sapienza, Rome, Italy)

Epigenetic and molecular approaches to enhance therapeutic features of adipose-derived stem cells and their secretome

11:10 – 11:30 (CST); 18:10-18:30 (GMT+2)
Mariella Montanari, PhD (Biomolecular Sciences, University of Urbino Carlo Bo, Italy)
Advanced protocols for tissue disaggregation and preparation of cell suspensions

11:30 – 11:50 (CST); 18:30-18:50 (GMT+2)
Chiara Schiraldi, PhD (University of Campania "Luigi Vanvitelli", Naples, Italy)
Title: Diverse hyaluronan gels and their combination with chondroitin in regenerative medicine

11:50 – 13:30 (CST); 18:50-20:30 (GMT+2)

Biomedical Applications of Biomaterials

Chairs

Pranela Rameshawar, PhD, (New Jersey Medical School, Rutgers, Newark, USA)
Thomas Netticadan, PhD, (St. Boniface Hospital Research Centre, Winnipeg, Canada)
11:50 – 12:10 (CST); 18:50-19:10 (GMT+2)
Igor V. Reshetov, MD, PhD (IM Sechenov First Medical University, Moscow, Russia)
Additive Technologies in bio-reconstruction for head and neck area

12:10 – 12:30 (CST); 19:10-19:30 (GMT+2)
Elena Pavlyukova, PhD (Kotelnikov Institute of Radioengineering and Electronics RAS, Moscow, Russia)
Advanced nanocomposite materials based on opal matrixes for biomedical applications

12:30 – 12:50 (CST); 19:30-19:50 (GMT+2)
Silvia Battistoni, PhD (IMEM – CNR Institute of Materials for Electronics and Magnetism, Parco Area delle Scienze 37/A, 43124, Parma, Italy)
Organic electrochemical transistors (OECTs) as promising sensing platforms for bioelectronic applications

12:50 – 13:10 (CST); 19:50-20:10 (GMT+2)

Yury Gulayev, (Kotelnikov Institute of Radioengineering and Electronics RAS, Moscow, Russia)
Carbon nanotubes emission electronics for biomedical applications
13:10 – 13:30 (CST); 20:10-20:30 (GMT+2)
Alba Scerrati, MD (Department of Translational Medicine, University of Ferrara, Italy)
Patient specific customized cranioplasty using 3D printed silicone molds or biopolymers: preliminary experience

13:30 – 14:30 (CST); 20:30-21:30 (GMT+2)

Young Investigators in Regenerative Medicine

Chairs
Cheryl Rockman-Greenberg, MD (University of Manitoba, Winnipeg, Canada)
Vishwajeet Puri, PhD (Ohio University, USA)

13:30 – 13:40 (CST); 20:30-20:40 (GMT+2)
Abhay Srivastava, (St. Boniface Hospital Research Centre, Winnipeg, Canada)
iPSC based clinical trial selection platform for patients with inherited metabolic disorders

13:40 – 13:50 (CST); 20:40-20:50 (GMT+2)
Mikhail Sinelnikov, (IM Sechenov First Medical University, Moscow, Russia)
The role of oxygen tension in the stem cell lifecycle

13:50 – 14:00 (CST); 20:50-21:00 (GMT+2)
Lauren Sherman, (Rutgers New Jersey Medical School, USA)
A role for inflammation in maintaining the stem cell state in non-adherent culture

14:00 – 14:10 (CST); 21:00-21:10 (GMT+2)
Bobak Shadpoor, (Rutgers New Jersey Medical School, Newark, USA)
Aspirin returns preeclamptic placenta-derived mesenchymal stem cells towards a normal mesenchymal stem cell phenotype

14:10 – 14:20 (CST); 21:10-21:20 (GMT+2)
Yannick Kenfack, (Rutgers New Jersey Medical School, Newark, USA)
Aspirin-induced epigenetic reorganization of placental-derived mesenchymal stem cells in preeclampsia

14:20 – 14:30 (CST); 21:20-21:30 (GMT+2)
Vibha Harindra Savanur, (Rutgers New Jersey Medical School, USA)
Engineered Mesenchymal Stem Cells as a Therapeutic Strategy in Glioblastoma

Concluding remarks and vote of thanks
Vincenzo Desiderio, PhD, Chair
Pranela Rameshawar, PhD, Chair