24 June, Day 4

MDD

Theme Sessions
Modeling Development and Disease

MODELING DEVELOPMENT AND DISEASE: AGING 7:30 – 9:15 EDT

Chairs: Marieke Essers, DKFZ, Germany
Anne Brunet, Stanford University, USA

STEM CELL BASED HETEROGENEITY OF INTERFERON SIGNALING IN THE HEMATOPOIETIC SYSTEM
Marieke Essers, DKFZ, Germany

IDENTIFICATION OF AN AGE-RELATED PARKINSON'S DISEASE RISK FACTOR WHICH REGULATES SULFUR METABOLISM
Shong Lau, Salk Institute for Biological Studies, USA

CPEB4 REGULATES MOUSE MUSCLE STEM CELL FUNCTION DURING AGING BY MODULATING MITOCHONDRIAL PROTEOMIC LANDSCAPE AND ACTIVITY
Wenshu Zeng, Hong Kong University of Science and Technology, Hong Kong

HYALURONIDASE-1-MEDIATED GLYCOCALYX IMPAIRMENT UNDERLIES ENDOTHELIAL ABNORMALITIES IN POLYPOIDAL CHOROIDAL VASCULOPATHY
Christine Cheung, Nanyang Technological University Singapore, Singapore

INHIBITION OF LONGEVITY REGULATOR PAPP-A MODULATES TISSUE HOMEOSTASIS VIA RESTRAINT OF MESENCHYMAL STROMAL CELLS
Mary Mohrin, Genentech Inc, USA

PERSISTENT NF-KB ACTIVATION IN MUSCLE STEM CELLS INDUCES PROLIFERATION-INDEPENDENT TELOMERE SHORTENING
Foteini Mourkioti, University of Pennsylvania, USA

MECHANISMS OF NEURAL STEM CELL AGING
Anne Brunet, Stanford University, USA

MODELING DEVELOPMENT AND DISEASE: COMPARATIVE EARLY DEVELOPMENT 14:00 – 15:45 EDT

Chairs: Katsuhiko Hayashi, Kyushu University, Japan
Hongmei Wang, Key State Laboratory Beijing, China

DECIPHERING THE MECHANISMS OF HOW PRIMATES ARE FORMED
Hongmei Wang, Key State Laboratory Beijing, China

SYNTHETIC EMBRYOLOGY: REPROGRAMMING EPIBLAST STEM CELLS INTO PRE-IMPLANTATION BLASTOCYST CELL-LIKE CELLS
Cody Kime, RIKEN, BDR, Japan

3D BIOMIMETIC IMPLANTATION NICHE REVEALS THE FIRST INTERACTIONS OF THE EMBRYO AND THE MATERNAL BLOOD VESSELS
Ivan Bedzhov, Max Planck Institute for Molecular Biomedicine, Germany

A GENOME-WIDE CRISPR-CAS9 KNOCKOUT SCREEN IDENTIFIES ESSENTIAL AND GROWTH-RESTRICTING GENES IN HUMAN TROPHOBLAST STEM CELLS
Chen Dong, Washington University School of Medicine, USA

TRANSGENIC PIG MODEL REVEALS CONSERVED LGR5 EXPRESSION IN HAIR FOLLICLE STEM CELLS IN POSTNATAL SKIN, BUT DIVERGENT EXPRESSION IN FETAL DEVELOPMENT ACROSS SPECIES
Kathryn Polkoff, North Carolina State University, USA

LANDMARKS OF HUMAN EMBRYONIC DEVELOPMENT INSCRIBED IN SOMATIC MUTATIONS
Sara Bizzotto, Boston Children's Hospital, USA

RECONSTITUTION OF OVARIAN FOLLICLES USING MOUSE PLURIPOTENT STEM CELLS
Katsuhiko Hayashi, Kyushu University, Japan

25 June, Day 5

MDD

Theme Sessions
Modeling Development and Disease

MODELING DEVELOPMENT AND DISEASE: MODELING DISEASE

7:30 – 9:15 EDT

Sponsored by: bit.bio
Chairs: Guo-li Ming, University of Pennsylvania, USA
Jeroen Bakkers, Hubrecht Institute, Netherlands

MECHANISMS DRIVING CARDIOMYOCYTE PROLIFERATION DURING ZEBRAFISH HEART REGENERATION
Jeroen Bakkers, Hubrecht Institute, Netherlands

MOLECULAR AND FUNCTIONAL SIGNATURES ASSOCIATED WITH 16P11.2 RECIPROCAL GENOMIC DISORDER: INSIGHTS INTO NEURODEVELOPMENTAL DISORDERS
Derek Tai, Massachusetts General Hospital, USA

SARS-COV-2 INFECTION OF HUMAN IPSC-DERIVED CARDIAC CELLS PREDICTS NOVEL CYTOPATHIC FEATURES IN COVID-19 PATIENTS
Sarah Rockwood, Gladstone Institute, USA

ORGANOID MODELS OF NORMAL AND MALIGNANT PULMONARY NEUROENDOCRINE CELLS REVEAL PATHWAYS IMPORTANT FOR NEUROENDOCRINE CELL GROWTH, DIFFERENTIATION, AND TRANSFORMATION
Talya Dayton, Hubrecht Institute, Netherlands

DISSECTING THE IMPACT OF REGIONAL IDENTITY IN A HUMAN ESC-BASED MODEL OF H3.3G34R-MUTANT HIGH-GRADE GLIOMA
Kosuke Funato, Memorial Sloan Kettering Cancer Center, USA

CRISPR/CAS9-EDITED HUMAN IPSC-CM IN ENGINEERED HEART TISSUES REPRODUCE HALLMARKS OF PRIMARY CARNITINE DEFICIENCY
Malte Loos, University Medical Center Hamburg-Eppendorf, Germany

MODELING INTER- AND INTRA-TUMOR HETEROGENEITY USING PATIENT-DERIVED GLIOBLASTOMA ORGANOIDS
Guo-li Ming, University of Pennsylvania, USA

MODELING DEVELOPMENT AND DISEASE: MODELING DEVELOPMENT

14:00 – 15:45 EDT

Sponsored by: MaxWell Biosystems
Chairs: Matt Blurton-Jones, University of California, Irvine, USA
Grayson Camp, Institute of Molecular and Clinical Ophthalmology Basel (IOB), Switzerland

CHARTING HUMAN DEVELOPMENT USING A MULTI-ORGAN ENDODERMAL ATLAS AND ORGANOID MODELS
Grayson Camp, Institute of Molecular and Clinical Ophthalmology Basel (IOB), Switzerland

EX UTERO DEVELOPMENT OF MOUSE EMBRYOS FROM PRE-GASTRULATION TO ADVANCED ORGANOGENESIS
Alejandro Aguilera Castrejon, Weizmann Institute of Science, Israel

NEURO-IMMUNE ORGANOIDS FOR MODELING EARLY BRAIN DEVELOPMENT AND DISEASE
Galina Schmunk, University of California, San Francisco, USA

CARDIOIDS REVEAL SELF-ORGANIZING PRINCIPLES OF HUMAN CARDIOGENESIS
Sasha Mendjan, IMBA, Austria

GENERATION OF FUNCTIONAL HUMAN KIDNEY ORGANOIDS FROM METANEPHRIC NEPHRON PROGENITORS AND URETERIC BUD CELLS SEPARATELY DIFFERENTIATED FROM HUMAN IPS CELLS
Hiraku Tsujimoto, Center for iPS Cell Research and Application (CiRA), Kyoto University, Japan

VASCULARIZATION OF CARDIAC ORGANOIDS CONTROL THE EXTRACELLULAR MATRIX ENVIRONMENT AND REGULATES FUNCTIONALITY
Holly Voges, Murdoch Children's Research Institute, Australia

USING HUMAN IPSC-MICROGLIA AND CHIMERIC MICE TO STUDY THE GENETICS OF ALZHEIMER'S DISEASE
Matt Blurton-Jones, University of California, Irvine, USA