

26 June, Day 6 
CA

Theme Sessions
Clinical Applications

CLINICAL APPLICATIONS: COMPLEX 3D SYSTEMS FOR THERAPY AND DRUG DISCOVERY

7:30 – 9:15 EDT

Sponsored by : T-CiRA Discovery

Chairs: Ben M. Maoz, Tel Aviv University, Israel

Misao Fujita, Center for iPS Cell Research and Application, Kyoto University, Japan

ETHICS OF HUMAN BRAIN ORGANOID RESEARCH FROM THE PERSPECTIVE OF SOCIAL SCIENCE SURVEY

Misao Fujita, Center for iPS Cell Research and Application, Kyoto University, Japan

3D ORGANOIDS GENERATED FROM HUMAN TROPHOBLAST STEM CELLS MODEL EARLY PLACENTAL DEVELOPMENT AND SUSCEPTIBILITY TO EMERGING VIRAL INFECTIONS

Rowan Karvas, Washington University in St. Louis, USA

PREDICTING ARRHYTHMOGENIC DRUG RISK IN A METABOLICALLY MATURED CARDIAC MICROPHYSIOLOGICAL SYSTEM

Verena Charwat, University of California, Berkeley, USA

BIOPRINTED 3D HUMAN OUTER BLOOD RETINAL BARRIER UNCOVERS RPE-DEPENDENT CHOROIDAL PHENOTYPE IN ADVANCED MACULAR DEGENERATION

Russell Quinn, National Institutes of Health (NIH), USA

COMPLEX ACTIVITY AND SHORT-TERM MEMORIES IN RECIPROCALLY CONNECTED CEREBRAL ORGANOIDS

Tatsuya Osaki, The University of Tokyo, Japan

HUMAN LENS REGENERATION VIA TRANSPLANTATION OF PLURIPOTENT STEM CELL-DERIVED LENS EPITHELIAL CELLS; A POTENTIAL NEW TREATMENT FOR CHILDHOOD CATARACT

Michael O'Connor, Western Sydney University, Australia

ORGANS-ON-A-CHIP: A NEW TOOL FOR THE STUDY OF HUMAN PHYSIOLOGY

Ben M. Maoz, Tel Aviv University, Israel

CLINICAL APPLICATIONS: ENGINEERING TISSUE AND ORGANS

14:00 – 15:45 EDT

Sponsored by: BlueRock Therapeutics

Chairs: James Hudson, University of Queensland; QIMR Berghofer, Australia

Randolph S. Ashton, University of Wisconsin, USA

STANDARDIZATION OF A SCALABLE HUMAN NEURAL ROSETTE ASSAY FOR ASSESSMENT OF NEURAL TUBE DEFECT RISK & DEVELOPMENTAL NEUROTOXICITY

Randolph S. Ashton, University of Wisconsin, USA

IDENTIFYING GENETIC REGULATORS OF ENDOCRINE AND BETA CELL IN VITRO DIFFERENTIATION VIA GENOME-WIDE LOSS-OF-FUNCTION SCREENING

Adrian Veres, Harvard University, USA

IGF1R DELETION IN A HOST EMBRYO AUGMENTS DONOR CONTRIBUTION TO HOST TISSUES IN BOTH INTRA- AND INTER-RODENT CHIMERAS

Toshiya Nishimura, The University of Tokyo, Japan

3D-PRINTED ABCB5-POSITIVE STEM CELLS FOR TREATING BILATERAL LIMBAL STEM CELL DEFICIENCY

Catherine Lee, Brigham and Women's Hospital, Harvard Medical School, USA

ELECTRICAL PROPERTIES AND OPTOGENETIC STIMULATION OF HUMANIZED CHAMBER-SPECIFIC ENGINEERED HEART TISSUES COMBINING DECELLULARIZED HEARTS WITH INDUCED PLURIPOTENT STEM CELL DERIVED CARDIOMYOCYTES

Matteo Ghiringhelli, Technion-Israel Institute of Technology, Israel

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Theme Sessions
Clinical Applications

HYPOIMMUNE IPSC-DERIVED CELL PRODUCTS TREAT CARDIOVASCULAR DISEASES IN IMMUNOCOMPETENT ALLOGENEIC MICE

Tobias Deuse, UCSF, USA

BROMODOMAIN AND EXTRATERMINAL INHIBITION BLOCKS INFLAMMATION-INDUCED CARDIAC DYSFUNCTION

James Hudson, University of Queensland; QIMR Berghofer, Australia

CLINICAL APPLICATIONS: ROAD TO CLINIC I (REGENERATIVE MEDICINE)

12:00 – 13:10 EDT

Sponsored by: BlueRock Therapeutics

Chairs: Elena Cattaneo, University of Milan and National Institute of Molecular Genetics, Italy

Timothy Kieffer, University British Columbia, Canada

STEM CELL DERIVED ISLETS TO TREAT DIABETES

Timothy Kieffer, University British Columbia, Canada

TWO STEP WNT SIGNALLING ACTIVATION FACILITATES THE INDUCTION OF HUMAN PLURIPOTENT STEM CELL DERIVED MIDBRAIN DOPAMINERGIC NEURONS FOR TRANSLATIONAL USE

Tae Wan Kim, Memorial Sloan Kettering Cancer Center, USA

CELL FUSION TO COMBINE THERAPEUTIC PROPERTIES

Kathryn Lye, University of Toronto, Canada

INFORMING IN VITRO STEM CELL DIFFERENTIATION THROUGH SINGLE-CELL RNASEQ ANALYSIS OF THE DEVELOPING HUMAN FETAL STRIATUM

Elena Cattaneo, University of Milan and National Institute of Molecular Genetics, Italy

CLINICAL APPLICATIONS: ROAD TO CLINIC II (DRUG DISCOVERY)

12:00 – 13:10 EDT

Sponsored by: Surrozen

Chairs: Junya Toguchida, Center for iPS Cell Research and Application, Kyoto University, Japan

Jane S. Lebkowski, Regenerative Patch Technologies, USA

PHASE 1/2A CLINICAL ASSESSMENT OF A BIOENGINEERED, RPE CELL-BASED IMPLANT FOR THE TREATMENT OF ADVANCED DRY AGE-RELATED MACULAR DEGENERATION

Jane S. Lebkowski, Regenerative Patch Technologies, USA

COMBINED GENETIC AND CHEMICAL SCREENS USING HUMAN NEURAL STEM CELLS IDENTIFY ZIKA VIRUS RESISTANCE FACTORS AND NEW DRUG CANDIDATES

Pei-Hsuan Chu, National Center for Advancing Translational Sciences (NCATS), USA

ROPALS TRIAL: PHASE 1/2A, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF ROPINIROLE HYDROCHLORIDE FOR ALS PATIENTS BASED ON THE IPSC DRUG REPOSITIONING

Shinichi Takahashi, Keio University School of Medicine, Japan

APPLICATION OF DISEASE-SPECIFIC IPS CELLS FOR DISCLOSING THE PATHOMECHANISM AND DISCOVERING THERAPEUTIC CHEMICALS FOR INTRACTABLE DISEASES

Junya Toguchida, Center for iPS Cell Research and Application, Kyoto University, Japan

MITOCHONDRIAL DYNAMICS REGULATE INTERFERON SIGNALING AND AGE-RELATED CHANGES IN HSPC

Carolina Petrillo, Columbia University Medical Center, USA

ADULT HEMATOPOIETIC STEM CELL CLONAL CONTRIBUTION IS DETERMINED BY MACROPHAGE SENSING OF CALRETICULIN 3 ON HEMATOPOIETIC STEM CELLS DURING DEVELOPMENT

Samuel Wattrus, Harvard Stem Cell Institute, USA

STEM CELL CLONALITY AND THE NICHE

Leonard I. Zon, Boston Children's Hospital, USA