

# Stem Cells World Congress

# 20-21 January 2010 South San Francisco, CA, USA



## **Stem Cells World Congress**

#### **Regenerative Medicine / Cellular Therapy: Cell Types Used and Trends in the Field**

#### **Keynote Presentation**

#### Human Embryonic Stem Cell Therapy: Pathway to the Clinic

#### Thomas Okarma, President, Geron

Geron Corporation is the world leader in developing human embryonic stem cell therapies. We received FDA clearance in January 2009 to initiate the world's first human clinical trial of an embryonic stem cell-based therapy in acute spinal cord injury. We will present a summary of the preclinical IND-enabling animal and in vitro work leading up to this clearance, and a discussion of the ongoing clinical protocol.

#### **Keynote Presentation**

#### Stem Cells in Drug Discovery and Development

Alan Trounson, President, California Institute for Regenerative Medicine

#### **Cardiovascular Cell Therapy**

Amit Patel, Assistant Professor, University of Utah

An overview in the advancement of clinical cell based therapies for both cardiac and vascular disease throughout the world.

#### The Promise of Stem Cells as a Neuroregenerative Approach to the Treatment of Multiple Sclerosis (MS)

Claude Bernard, Professor of Neuroimmunology and Associate Director, MISCL, Monash University

Stem cell transplantation has long been considered a promising regenerative therapy for a number of central nervous system (CNS) diseases.

#### **Differentiation of Islet Progenitor Ngn3-expressing Cells into Insulin-secreting ß Cells is Promoted by Inhibition of SIRT1** Fang-Xu Jiang, Assistant Professor, Western Australian Institute for Medical Research

The ability to differentiate neurogenin 3-expressing (Ngn3+) cells into mature insulin-secreting cells not only is important for islet cell biology, but also has an impact on future diabetes therapy.

#### **Keynote Presentation**

#### Modeling and Treating Neurological Diseases with Stem Cells Clive Svendsen, Professor, University of Cambridge

#### Personalized Stem Cell Therapies for Tissue Regeneration

Sheldon Schaffer, Vice President, Aastrom Biosciences

Aastrom is a leader in regenerative medicine developing autologous cell products for the treatment of chronic cardiovascular diseases. We will provide a summary of Aastrom's technology, ongoing clinical programs and the unique opportunities for expanded, autologous, mixed cell products: targeting unmet medical needs and solving the challenges of commercial scale manufacturing.

#### Mesenchymal Stem Cells (MSCs) for Cellular Therapy

#### Adult Mesenchymal Stem Cells: New Cell-Based Therapies Arnold Caplan, Professor, Case Western Reserve University

MSCs act at sites of injury by providing immunomodulatory signals and other cues that assist the injured tissue to regenerate.

#### S1P Regulates Migration of Mesenchymal Stem Cells that Contribute to Liver Fibrosis

Lingsong Li, Professor, Peking University Stem Cell Research Center

We confirm that MSCs indeed contribute to liver fibrosis and fist find S1P to play a role in mediating MSC migration. Finally, we successfully improve conditions in the chemically damaged liver in mice by blocking of S1P signals.

#### sFRP2 Enhances the Myocardial Repair Potential of MSCs by Modulating both Wnt and BMP Signaling Pathways to Increase Self-renewal and Decrease Ectopic Calcification of Myocardium

#### Pampee Young, Assistant Professor and Director of Transfusion Medicine, Vanderbilt University Medical Center

sFRP2 as a key molecule that enhances efficacy of MSCs in cardiac repair. Mouse models of cardiac and wound injury show that sFRP2 effects stem cell survival and renewal by modulating both Wnt and BMP pathways.

#### **Cord Blood for Cellular Therapy**

### Human Cord Blood Stem Cell Modulated Regulatory T Lymphocytes Reverse the Autoimmune Caused Type 1 Diabetes in Nonobese Diabetic (NOD) Mice

#### Yong Zaho, Assistant Professor, University of Illinois

We are the first group using newly-characterized cord blood stem cells (CB-SC) to correct functional defects of CD4+CD62L+ regulatory T cells (Tregs), leading to reversal of overt diabetes in an autoimmune-caused diabetic NOD mouse model.

#### Stem Cells for Drug Discovery / Development and Toxicity Screening

#### Development of the Multi-stage Stem Cell Carcinogenesis (MSCC) Model/Drug Discovery Platform

Ana Krtolica, Chief Scientific Officer, SLL Sciences

SLL Sciences has developed a multi-stage stem cell carcinogenesis (MSCC) drug discovery platform that is based on isogenic, normal human embryonic stem cells and tumor-inducing/cancer stem cells and mirrors the natural process of carcinogenesis.

#### Stem Cells for Drug Discovery and Cellular Therapy: Market Analysis

Enal Razvi, Biotech Analyst, Select Biosciences

As part of our continuous industry coverage of the stem cells marketplace, we have been tracking the qualitative and quantitative market metrics for stem cells utilization in drug discovery and cellular therapy. In this presentation, a snapshot of these market analyses is presented together with the current size of these market segments, and forecasts for these segments together with their respective arowth rates.

## **Stem Cells World Congress**

#### Induced Pluripotent Stem Cells (iPSCs)

#### **Keynote Presentation**

#### Stem Cells, Pharmacology and Cardiovascular Diagnostics

Bruce Conkiln, Senior Investigator, Gladstone Institute of Cardiovascular Disease

The Conklin Lab combines genetic knockouts, designer GPCRs and bioinformatics techniques in order to gain a basic understanding of hormone signaling in mice and pluripotent stem cells. Studies include the use of induced pluripotent stem (iPS) cells from patients with human genetic heart rhythm disorders such as Long QT syndrome.

#### **Complicity Complications in Induced Pluripotent Stem Cell Research**

#### Mark Brown, Professor, University of Wisconsin

Induced pluripotent stem cell (iPSC) bioscience raises three kinds of moral complicity concerns: iPSC were developed within ongoing human embryonic stem cell (heSC) research programs; additional heSC lines may be required to effect a transition to iPSC based biomedicine; and the benefits of unimpeded stem cell science may be forgone.

#### A Small Molecule Inhibitor of Tgf-ß Signaling Replaces Sox2 in Reprogramming by Inducing Nanog

Justin Ichida, Post Doc, Harvard University We have taken a key step towards generating safe induced pluripotent stem cells that are suitable for regenerative medicine by replacing two of the four reprogramming transgenes with small molecules.

#### **Cell Therapies in Lung Injury**

#### Mauricio Rojas, Professor, Emory University

Over the past few years, the recruitment of stem cells has emerged as a possible important therapy on lung disorders. Consistent with this idea, infusion of a specific stem cell populations termed bone marrow derived mesenchymal stem cells (BMDMSCs) appear to be important in the regulation of acute inflammatory process. We are presenting examples of the use of BMDMSC in acute and chronic diseases in the lung.

#### **Cellular Delivery and Homing**

#### Non-invasive Imaging of Therapeutic Cells in Patients

Shahriar Yaghoubi, Research Scientist, Stanford University

The goal of this presentation is to introduce molecular imaging of therapeutic cells in humans to the regenerative medicine community. These technologies will benefit therapeutic development of stem cells by allowing monitoring of whole-body therapeutic cell pharmacokinetics in patients.

#### Intravascular Neural Stem Cell Delivery to the Ischemic Brain

Raphael Guzman, Assistant Professor, Stanford University School of Medicine Minimally invasive intravascular neural stem cell (NSC) therapy would be an attractive alternative to the more invasive stereotactic implantation of stem cells for central nervous system diseases (CNS).

#### Human Cellular Implants: Regulatory Considerations

Thomas Tempske, Program Manager, Regulatory Compliance, California Department Of Health Services

An overview of California tissue bank law will be presented for clinical researchers to help make them aware of the laws regulating the collection, processing, storage, and distribution of cells for transplant/implant in California.

#### Magnetic Labeling for Cellular MRI

#### Joseph Frank, Chief, National Institutes of Health

The potential obstacles and difficulties in taking magnetic cell labeling with SPION to the clinic will be presented along with the potential of where magnetic labeling of cell tagging may be useful in cell therapy.

#### Stem Cell Recruitment as a Strategy for Tissue Repair

#### Daniel Peterson, Executive Director, Rosalind Franklin University of Medicine and Science

As cells with properties of stem/progenitor cells have been identified in most tissues, the recruitment of endogenous stem cells may offer an alternative strategy for therapeutic repair. This strategy may advance the development of patient-specific personalized medicine.



# **Registration Form**

#### Stem Cells World Congress 2010

Industry Delegate	\$999
Industry Delegate (Early Bird) <sup>+</sup>	\$899
Academic Delegate <sup>°</sup>	\$599
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