

# ISCA International Summer School on Clinical Applications of Stem Cells

July 23, 24 & 25, 2018



**Institute for Neurophysiology**

**Robert Koch Strasse 39, Cologne, Germany**

**MONDAY, July 23, 2018**

**Human Disease Modelling**

- 9:00-9:30**                    **Introduction to Summerschool**  
Prof. J. Hescheler / Prof. K. Nayernia
- 9:30-11:00**                **Stem Cell-based Modelling of Human Disease**  
PD Dr. K. Pfannkuche
- 11:00-11:30**              **Discussion Break**
- 11:00-13:00**              **Group A: Practical Laboratory Work**  
PD Dr. K. Pfannkuche/ S. Hamad/ D. Derichsweiler
- Group B: Stem cell Modelling of Cardiomyopathies**  
Prof. J. Hescheler
- 13:00-14:00**              **Lunch Break**
- 14:00-15:30**              **Group B: Practical Laboratory Work**  
PD Dr. K. Pfannkuche/ S. Hamad/ D. Derichsweiler
- Group A: Stem cell Modelling of Cardiomyopathies**  
Prof. J. Hescheler
- 15:30-16:00**              **Discussion Break**
- 16:00-17:00**              **Group A: Practical Laboratory Work**  
PD Dr. K. Pfannkuche/ S. Hamad/ D. Derichsweiler
- Group B: Stem cell Modelling of Cancer**  
Prof. K. Nayernia
- 17:00-18:00**              **Group B: Practical Laboratory Work**  
PD Dr. K. Pfannkuche/ S. Hamad/ D. Derichsweiler
- Group A: Stem cell Modelling of Cancer**  
Prof. K. Nayernia

**TUESDAY, July 24, 2018**

**Drug Screening & Cell Therapy (I)**

- 9:00-9:45**                    **In vitro cardiotoxicity studies using hiPSC-derived cardiomyocytes;  
Genomics Biomarkers**
- Prof. A. Sachinidis/H. Nemade/ A. Acharya
- 9:45-12:00**                **Perspectives and Challenges Associated with Translational Use of  
Stem Cells for the Therapy of Traumatic Brain Injury (TBI).**
- Introduction into Clinical and Experimental TBI**
- Stem Cell Transplantation after experimental TBI**
- Didactics of Animal Handling in Experimental Set-Up - Transfer of  
Theoretical Knowledge and Practical Skills during FELASA or FELASA-  
corresponding education courses.**
- Practical part contains**
- Demonstration of Animal Handling**  
**Demonstration of TBI Model - Fluid-Percussion-Injury**  
**Demonstration of Neurological and Cognitive Testing**  
PD Dr. M. Molcany
- 12:00-13:30**                **Practical Laboratory Work**
- Preparation and plating of undifferentiated cells on E-plate cardio**
- PD Dr. F. Nguemo/
- 13:30-14:00**                **Lunch Break**
- 14:00-17:00**                **Practical Laboratory Work**
- Heart and Intestine isolations:
- Heart isolation, Embedding, slicing in vibratome, culture on MEAs plate
- Isolation of intestinal tract (Smooth muscle pharmacology of intestine  
on organ bath).
- 17:00-18:00**                **Practical Part**
- Transcriptome Analysis in Drug Screening**

**WEDNESDAY, July 25, 2018**

**Drug Screening & Cell Therapy (II)**

<b>9:00-11:00</b>	<b>Stem Cell and Tissue Models in Heart Repair and Drug Testing</b>  PD Dr. F. Nguemo
<b>11:00-11:30</b>	<b>Discussion Break</b>
<b>11:00-13:00</b>	<b>Stem cells in Personalized Medicine</b>  Prof. Dr. K. Nayernia
<b>13:00-14:00</b>	<b>Lunch Break</b>
<b>14:00-15:30</b>	<b>Functional in vitro analysis of pre-plated heart slices on MEAs plates</b>  PD Dr F. Nguemo/ A. Koester/ S. Rohani/ M. Kamga
	Ms. Charlotte Moter
<b>15:30-16:00</b>	<b>Discussion Break</b>
<b>16:00-17:30</b>	<b>Functional in vitro analysis of cell proliferation, impedance system.</b>  PD Dr F. Nguemo/ A. Koester/ S. Rohani/ M. Kamga
<b>17:30-18:00</b>	<b>Concluding Remark &amp; Awarding Certifications</b>