Symposium Day 1: October 19, 2022,

Time	Speaker	Topic	Learning Objectives
11 AM-11:15 AM	Introduction by Terry Hébert		
11:15 AM-12:15 PM	Terry Kenakin	Keynote 1: An introduction to drug discovery	Understand how drug screening has evolved and how it is done.
12:15 PM-12:45 PM	Mick Bhatia	High Content Screening of human pluripotent stem cells using chemical genomics	Understand culture adaptation requirements of human pluripotent stem cells (hPSCs) for screening. Learn methods for imaging hPSCs to measure self-renewal and differentiation. Explore strategies for chemical genomics applied to hPSCs.
1 PM-1:30 PM	Stephane Angers	Genome-wide CRISPR screens to chart signaling pathways and identify therapeutic targets.	Understand how such screens are designed and conducted. Understand how hits from such screens are followed up.
1:45 PM- 2:15 PM	Jean-François Trempe	Measuring protein turnover in human induced pluripotent stem cell organoids to understand neurodegenerative diseases.	Understand how proteomic approaches can be used to measure the turnover of proteins.
2:15 PM-3 PM	N/A	Roundtable Discussion with participants	

Symposium Day 2: October 20, 2022

Time	Speaker	Topic	Learning Objectives
11 AM-11:30 AM	Laurent Sabbagh	Advancing drug discovery through large scale signaling profiling of rare GPCR variants occurring in human populations using a BRET-based biosensor technology	Understand how to profile signaling signatures of GPCRs using biosensor-based approaches. Understand the impact of naturally occurring variants within the human population on a receptor's response to its natural ligand and impact on disease to better design novel therapeutics.
11:30 AM-12 PM	Joachim Goedhart	Single cell FRET	Understand how single cell FRET screens are devised, run and analyzed. Using the approaches described above, understand the extent and integration of cellular signaling down to the single cell level. Explore the analytical frameworks to make sense of these data sets.
12:15PM – 1:15 PM	Jace Jones-Tabah and Kyla Bourque	Analyzing and visualizing single cell biosensor data- a practical session Note: no prior work or materials required from attendees	Discuss the advantages and limitations of measuring signaling pathway activation using fluorescent biosensors. Understand the steps involved in analyzing single cell versus bulk biosensor data.

			Learn approaches to data analysis, visualization and interpretation.
1:30 PM-2 PM	Kyla Bourque	Strategies for expressing biosensors in iPSCs and organoids	To survey methods available to introduce genetically-encoded biosensors into iPSCs and their differentiated derivatives (with a focus on cardiomyocytes and neurons), as well as 3D organoid models. Explore the strengths and weakness of these strategies.
2 PM-2:30 PM	Alia Arslanova	Phenotypic analysis of cardiomyocyte function	Understand applications of human induced pluripotent stem cell-derived cardiomyocytes (hiPSC-CMs) in modeling cardiac arrhythmias. Identify the techniques to phenotype hiPSC-CMs and investigate pathophysiological mechanisms underlying the disease.
2:45 PM- 3:45 PM	Graciela Pineyro	Keynote 2: Classifying drug candidates according to similarities in signaling profiles	Understand how to use comprehensive signaling profiles to classify drug candidates and learn how to use the resulting categories to associate signaling profiles to desired/non-desired in vivo responses
4:00 PM- 4:30 PM	Roundtable Discussion with participants		
4:30 PM- 4:45 PM	Closing Remarks		