AIBBC 2020 ONLINE CONFERENCE & TRAINING in the COVID-19 ERA

Workshop Courses

Thur, Nov. 5th, 2020

Instructors	Session	Session title	Instructor (s) in charge	Contents
COURSE 1 DIAGNOSTIC CYTOMETRY				
Instructors	**Prof. J. Paul Robinson** *(Purdue University, USA),* **Dr. Heather Paich** *(Agilent Technologies, Inc. USA),* **Dr. El-ad David Amir** *(Astrolabe Diagnostics, USA)*			
14:00~14:30	Session C1-1	Introduction to Flow cytometry (25 Min)	Heather	This is a general introduction to the field of flow cytometry. It will outline what it achieves, the broad features and value of single cell analysis. We will mention the variety of instruments covering basic analysis, image-flow and cell sorting. The goal is to introduce the technology as a general purpose single cell analysis opportunity.
14:30~15:00	Session C1-2	Principles of technology (25 min)	J. Paul	This lecture will focus on the core components providing details of how flow cytometry works starting from requiring samples to be in single cell suspension (fluidics), to light sources (Excitation), capturing signals and outputting data (electronics). This lecture will provide listener with an overview of what technology is generally involved.
15:00~15:30	Session C1-3	Fluorescence & Sample prep including antibody staining (25 min)	Part 1 (10 min) J. Paul	Expanding on the previous lecture, a more detailed overview of the principles of what is fluorescence and how it provides advantages in terms of sensitivity, background and signal intensity and wavelength separation
			Part 2 (15 min) Heather	Now we have some background in fluorescence, how is it used? This component will explain how antibodies are conjugated with fluors or how secondary antibodies can be used. Additionally, we can attach antibodies to beads and then use fluorescently labeled antibodies to measure molecules like cytokines, or hormones etc in sera.
15:30~16:00	Session C1-4	Basic Data analysis & Typical Sample analysis (25 min)	Part 1 (10 min) J. Paul	In this introduction we will discuss how a flow cytometer creates a data set called a listmode file and what that means. We will outline how a flow cytometer collects and saves these data sets so complex analysis can be performed.
			Part 2 (15 min) Heather	Gating your data. Here we provide examples of typical data processing and analysis showing how we go from collecting data and providing some meaningful results in the laboratory.
16:30~17:00	Session C1-5	Compensation (25 min)	Paul	Multiple fluorescence bands brings a significant problem that has to be solved in flow cytometry and that is spectral overlap from one band to another. A process of compensating each overlapping band is used and this section will explain how this works and why it is critical to obtain accurate results.
17:00~17:30	Session C1-6	High Parameter and Spectral flow (30 min)	Paul	This section will outline the difference between polychromatic and spectral data and show how very high content data can be produced requiring very advanced analytical approaches.
17:30~18:00	Session C1-7	Really complex data (30 min)	El-ad David	In this session, opportunities to manage and manipulate very high content data will be presented to demonstrate to participants some of the options for extracting valuable data from condensed datasets.
18:00-18:15	CLOSING CEREMONY		USE THE ZOOM LINK FOR OPENING AND CLOSING CEREMONY	