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Technical Workshops Series – 2015

Three-Day Hands on Workshop on
Flow Cytometry Basics, Apoptosis, Cell Cycle and Data Analysis
Wave 3
 - Organized by Venture Center & Flowcytometry Solutions Pvt. Ltd. -

Learn	Principles & theory of flow cytometry; Various applications of Flow Cytometry, Understanding the instrumentation; Multicolor Flow Cytometry: Fluorochromes, Spectral Overlap, Compensation Controls, experimental designing and controls, What is apoptosis and how to study apoptosis using flow cytometry? How to perform cell cycle assay using flow cytometry; Mini-workshop on data interpretation with real data, data presentation; Quick update on latest techniques/developments; Best practices; Workshop is intended to be basic. Hand-on Cell cycle analysis and Apoptosis analysis. Flow Data analysis
Organized by	Venture Center, Bioincubator and Cell studio at Venture Center & Flowcytometry Solutions Pvt. Ltd.
For whom	<ul style="list-style-type: none"> • Industry professionals • Researchers and students Limited seats; First-come-first-serve.
When	July 13,14 &15, 2015, 9:00 am – 5:30 pm
Where	Venture Center, 100 NCL Innovation Park, Dr. Homi Bhabha (Pashan) Road, Pune-411008
Contact	Ms. Lipika Biswas Venture Center, 100, NCL Innovation Park, Dr. Homi Bhabha Road, Pune – 411008; Phone: +91-20-2586-5877; Email: eventsdesk@venturecenter.co.in
Cost	<ul style="list-style-type: none"> • Students with valid ID card: Rs. 5000/- • Micro and small enterprises/ individuals: Rs. 7,000/- • Medium and large companies/ others: Rs. 10,000/-



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Introduction

Flow cytometry is a technology that is used to analyse the physical and chemical characteristics of particles in a fluid as it passes through at least one laser. Flow cytometry has numerous applications in science, including those relevant to healthcare. The technology has been widely used in the diagnosis of health conditions, particularly diseases of the blood such as leukemia, although it is also commonly used in the various different fields of clinical practice as well as in basic research and clinical trials.

This workshop aims to give an introduction to the principles and practice of flow cytometry for industry professionals and students. The workshop will be conducted by an expert, having vast experience in flow data acquisition and data analysis. The workshop includes specialized talks, hands-on lab sessions, demonstrations and data analysis exercises. The workshop shall also discuss some recent trends and new developments in research and industry relating to flow cytometry.

Course Outline

Talks

Principles and applications of flow cytometry, Instrumentation, Cell cycle assay, Multicolour flow cytometry, Apoptosis

Demonstrations

Instrument startup, Instrument setup, Template preparation for data acquisition, PMT Voltage setting, Threshold etc.

Hands-on lab sessions

Cell cycle analysis using propidium iodide - sample preparation, acquisition and data analysis.
Apoptosis analysis using Annexin V and propidium iodide - sample preparation, acquisition and data analysis.

Course includes

- Course notes including slides, case studies, application notes
- Lab demo and hands on session
- Access to restricted website with online compilation of resources for flow cytometry
- One-on-one feedback on data analysis exercise
- Certificate of Participation issued by Venture Center
- Course includes tea and lunch at Venture Center cafeteria

*** Please note the participants will have to arrange for their own travel, local transport and accommodation.**

Schedule

Time	Session title	Venue
Day 1, 13th July 2015		
0830-0900	Registration	Foyer, VC
0900-0915	Introduction to the course and faculty	Training room, VC
0915-1030	History and Introduction of Flow Cytometry	Training room, VC
1030-1100	Various applications of Flow Cytometry	Training room, VC
1100-1115	Tea	Foyer, VC
1115-1230	Inside the Black box—know about your instrument (flow cytometer)	Training room, VC
1230-1300	How to perform cell cycle assay using flow cytometry?	Training room, VC
1300-1400	Lunch	Cafeteria, VC
1400-1500	Instrument startup and demonstration of instrument setup; Template preparation for data acquisition, PMT Voltage setting, Threshold etc.	Bio Lab-4, VC
1500-1515	Tea	Foyer, VC
1515-1730	Wet lab 1: Cell cycle analysis using propidium iodide (sample preparation and acquisition).	Bio Lab-4, VC
Day 2, 14th July 2015		
0900-0930	Review of Day 1 and queries	Training room, VC
0930-1100	Analysis of cell cycle data from previous day using cell cycle analysis software.	Training room, VC
1100-1115	Tea	Foyer, VC
1115-1230	All about Multicolour Flow Cytometry: Fluorochromes, Spectral overlap, Compensation controls, Experimental designing and controls	Training room, VC
1230-1300	What is apoptosis and how to study apoptosis using flow cytometry?	Training room, VC
1300-1400	Lunch	Cafeteria, VC
1400-1730	Wet lab 2: Apoptosis analysis using Annexin V and propidium iodide (sample preparation and acquisition).	Bio Lab-4, VC
	Tea break in between the session	Foyer, VC
Day 3, 15th July 2015		
0900-0930	Review of Day 2 and queries	Training room, VC
0930-1100	Analysis of apoptosis data from the previous day using flow cytometry data analysis software.	Training room, VC
1100-1115	Tea	Foyer, VC
1115-1300	In and outs of Flow Data Analysis and Presentation—What to do and what not to do?	Training room, VC
1300-1400	Lunch	Cafeteria, VC
1400-1630	Hands on flow data analysis and discussion.	Training room, VC
1645-1700	Tea	Foyer, VC
1700-1730	Test, evaluation and feedback	Training room, VC
1730-1800	Closure - Certificate distribution	Training room, VC

Anchor faculty

Dr. Hemant Agrawal
Director—Flowcytometry Solutions Pvt Ltd.

Dr. Hemant Agrawal has an expertise in flow cytometry with more than 9 years of experience in flow data acquisition and analysis. His expertise in flow cytometry includes but is not limited to multicolor immunophenotyping, cell proliferation, cell cycle and apoptosis in humans and mice.

He obtained PhD in Immunology from the Trauma Surgery Department at University Hospital Essen, Germany (2006), where he was trained in dendritic cells characterization via flow cytometry. His post doctoral research at Oklahoma Medical Research Foundation and Rheumatology Department at Northwestern Memorial Hospital, Chicago includes performing extensive studies with dendritic cells and macrophages using multicolor flow cytometry and immunological studies in the field of autoimmunity using flow cytometry. He worked as an Application Support Scientist for FlowJo (Flow data analysis software) for Indian Subcontinent and Middle East region. Currently, beside running Flowcytometry Solutions, he is also a consultant for Denovo Software, USA for their flow cytometry data analysis software, FCS Express.

About the organizers

About Venture Center

Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering.

For more information, visit <http://www.venturecenter.co.in/>


About BioIncubator

The BioIncubator at Venture Center aims to nucleate and nurture technology and knowledge-based enterprises leveraging knowledge in the areas of biotechnology (biopharma, agrobiotech, industrial biotech, clean technology), biomedical

	<p>engineering/devices/ diagnostics, biomass value addition/ renewable fuels/chemicals/materials, bioinformatics, bio/medical services and related disciplines. Created with support from DBT-BIRAC under the Bioincubator Support Scheme. For more information, visit http://www.bioincubator.venturecenter.co.in/</p>
	<p>About Cell Studio Cell Studio is a facility of the BIRAC supported BioIncubator at Venture Center, NCL Innovation Park, Pune, India. The Cell Studio is home to advanced scientific facilities for microscopy and imaging, flow cytometry, cell growth studies and tissue engineering. The Cell Studio aims to support selected areas of technology development and science entrepreneurship while also nurturing collaborations between researchers and industry/startup companies. For more information, visit http://www.venturecenter.co.in/cellstudio/</p>
	<p>About Flowcytometry Solutions Pvt. Ltd. Flowcytometry Solutions (FlowSols) is an organization, which aims at providing complete solution to the researchers and clinicians on flow cytometry. It offer to provide support to the students and researchers engrossed to flow cytometry pitch, towards addressing problems pertaining to instrument handling, experiment design and applications, sample preparation, acquisition, data investigation and presentation. The mission of Flowcytometry Solutions Pvt. Ltd. is to provide a complete flow cytometry expertise, which can help researchers to innovate, lead and excel For more information, visit http://www.flowsols.com</p>