



Technical Workshops Series – 2016

**3 Day Hands on Flow Cytometry Workshop On
Multicolor Immunophenotyping, Intracellular Cytokine Staining and Data Analysis
- Organized by Venture Center & Flowcytometry Solutions Pvt. Ltd -**

Learn	<ul style="list-style-type: none"> • Fundamental concepts of flow cytometry and its applications. Instrument startup and demonstration of instrument setup, Template preparation for data acquisition, PMT Voltage setting, Threshold etc. • Designing and execution of Multicolor flow cytometry experiment. • Compensation and its role in multicolor flow cytometry. Preparation of compensation controls and setting up the compensation matrix • Immunophenotyping: Staining of cells (Whole Blood profiling) for multicolor flow cytometry (4 to 6 colors) • Intracellular Staining: Staining of cells for intracellular cytokines • Flow cytometry data analysis on a software, troubleshooting, discussion and Q&A 						
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 						
When	Tuesday-Thursday 1- 3 March 2016 Time 0900-1800 hrs						
Where	Training room, Venture Center, 100 NCL Innovation Park, Dr. Homi Bhabha Road, Pune-411008						
Contact	Ms. Lipika Biswas Phone: +91-20-2586-5877 Email: eventsdesk@venturecenter.co.in						
Cost	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Students with valid ID card / VC resident companies</td> <td style="padding: 2px; text-align: right;">Rs 5000/-</td> </tr> <tr> <td style="padding: 2px;">Micro, small and medium enterprises/ individuals</td> <td style="padding: 2px; text-align: right;">Rs 7000/-</td> </tr> <tr> <td style="padding: 2px;">Large companies</td> <td style="padding: 2px; text-align: right;">Rs 10,000/-</td> </tr> </table> <p>Maximum 20 seats; First-come-first-serve.</p> <p>Register online at http://www.venturecenter.co.in/workshops/</p> <p>Note:-</p> <ul style="list-style-type: none"> • Fees paid is not refundable and non transferable under any circumstances. • Organizers reserve the right to accept or refuse or delay registrations so to optimize the composition of the group and hence maximize learning for all participants. 	Students with valid ID card / VC resident companies	Rs 5000/-	Micro, small and medium enterprises/ individuals	Rs 7000/-	Large companies	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 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

The workshop will include theory as well as practical sessions. Workshop format will include:

Talks

- Introduction to Flow Cytometry and its Applications
- KYC: Know Your Cytometer – Decoding the Black Box
- How to set up and Design a Multicolor Flow Cytometry Experiment?
- Concepts and Basics of Flow Data Analysis – What to do and what not to do?
- Analysis of Flow Data and Reporting Results – Discussion about Fundamental Statistics and introduction to MiFlowCyte: Data Presentation Guidelines

Hands on lab sessions

- Instrument startup and demonstration of instrument setup, Template preparation for data acquisition, PMT Voltage setting, Threshold etc.
- Compensation and its role in multicolor flow cytometry. Preparation of compensation controls and setting up the compensation matrix
- Immunophenotyping: Staining of cells (Whole Blood profiling) for multicolor flow cytometry (4 to 6 colors)
- Intracellular Staining: Staining of cells for intracellular cytokines
- Flow cytometry data analysis on a software, troubleshooting, discussion and Q&A

Venture Center: <http://www.venturecenter.co.in/>

Contact No: 020 2586 5877; Email: eventsdesk@venturecenter.co.in

Facebook Page: <https://www.facebook.com/venturecenterpune?ref=hl>



Course includes

- Theory and practical sessions
- One-on-one interaction with the expert
- Access to restricted website with online compilation of resources for flow cytometry
- Certificate of Participation issued by Venture Center
- Membership in events mailing list of Venture Center
- Tea and lunch at Venture Center cafeteria

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

- For accommodation (standard and budgeted hotels) please visit:
<http://www.venturecenter.co.in/puneguide/standard.php>
- For accommodation (deluxe and luxury hotels) please visit:
<http://www.venturecenter.co.in/puneguide/deluxe.php>
- For local transport details visit:<http://www.venturecenter.co.in/puneguide/taxi.php>



Workshop Schedule			
Time	Session title	Lead	Venue
Day 1			
0900 – 0930	Registration		Foyer area
0930 – 0945	Introduction to the course and faculty	Dr. Manisha Premnath	Training Room
0945 – 1100	Lecture 1- Introduction to Flow Cytometry and its Applications	Dr. Hemant Agrawal	Training Room
1100 – 1130	Tea / Snacks break		Foyer area
1130 – 1300	Lecture 2 – KYC: Know Your Cytometer – Decoding the Black Box	Dr. Hemant Agrawal	Training Room
1300 – 1400	Lunch break		Cafeteria
1400 – 1500	Lab 1 – Instrument startup and demonstration of instrument setup, Template preparation for data acquisition, PMT Voltage setting, Threshold etc.	Dr. Hemant Agrawal	Bio Lab-4
1500 – 1530	Tea break		Cafeteria
1530 – 1800	Lab 2 – Compensation and its role in multicolor flow cytometry. Preparation of compensation controls and setting up the compensation matrix	Dr. Hemant Agrawal	Bio Lab-4
Day 2			
0930 – 1000	Review of Day 1 and queries	Dr. Hemant Agrawal	Bio Lab-4
1000 – 1100	Lecture 3 – How to set up and Design a Multicolor Flow Cytometry Experiment?	Dr. Hemant Agrawal	Training Room
1100 – 1130	Tea break		Foyer area
1130 – 1300	Lab 3 – Immunophenotyping: Staining of cells (Whole Blood profiling) for multicolor flow cytometry (4 to 6 colors)	Dr. Hemant Agrawal	Bio Lab-4
1300 – 1400	Lunch break		Cafeteria
1400 – 1730	Lab 4 – Intracellular Staining: Staining of cells for intracellular cytokines.	Dr. Hemant Agrawal	Bio Lab-4
	Tea break will be between the session		Cafeteria



Day 3			
0900 – 0930	Review of Day 2 and queries	Dr. Hemant Agrawal	Training Room
0930 – 1100	Lecture 4 – Concepts and Basics of Flow Data Analysis – What to do and what not to do?	Dr. Hemant Agrawal	Training Room
1100 – 1130	Tea break		Foyer area
1130 – 1300	Lecture 5 – Analysis of Flow Data and Reporting Results – Discussion about Fundamental Statistics and introduction to MiFlowCyte: Data Presentation Guidelines	Dr. Hemant Agrawal	Training Room
1300 – 1400	Lunch break		Cafeteria
1400 – 1630	Lab 5 – Flow cytometry data analysis on a software, troubleshooting, discussion and Q&A	Dr. Hemant Agrawal	Bio Lab-4
1630 – 1700	Tea break		Cafeteria
1700 – 1730	Concluding session – Test, Feedback, Certificate distribution	Dr. V. Premnath	Training Room

Anchor faculty



Dr. Hemant Agrawal

Director—Flowcytometry Solutions Pvt Ltd.

Dr. Hemant Agrawal has an expertise in flow cytometry with more than 10 years of experience in flow data acquisition and analysis. His expertise in flow cytometry includes but is not limited to multicolor immunophenotyping, intracellular protein staining, cell proliferation, bead array, 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, Oklahoma City (2006-2008) and Rheumatology Department at Northwestern Memorial Hospital, Chicago (2008-2011) includes performing extensive studies with dendritic cells and macrophages using multicolor flow cytometry and immunological studies in the field of autoimmunity using flow cytometry. From 2011-2013, he worked as an Application and Product Manager with FlowJo, TreeStar Inc, USA for the Indian subcontinent and Middle East. In 2013, he started an organization, Flowcytometry Solutions Pvt Ltd, which imparts training and consultancy in the field of flow cytometry in India and neighboring countries. Currently, he is also a consultant to De Novo Software (FCS Express software), Bio-Rad, Venture Center (CSIR-Bioincubator) and Zydus-Cadila.

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About the organizers	
	<p>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 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/</p>
	<p>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 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>