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Technical Workshops Series – 2015

**Two-Day Hands-on Workshop on
Flow Cytometry
Learn and Perform The Right Way!**

- Organized by Venture Center & Flowcytometry Solutions Pvt. Ltd. -

Learn	<ul style="list-style-type: none"> • Fundamental concepts of flow cytometry in order to provide a clear and deep understanding of the important aspects in flow cytometry. • Experimental design, data acquisition, sample quality, titration, staining, compensation, controls, troubleshooting, data analysis, and presentation. 						
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 <p>Limited seats; First-come-first-serve.</p>						
When	23 – 24 November, 2015, 9:00 am – 6:00 pm						
Where	Venture Center, 100 NCL Innovation Park, Dr. Homi Bhabha (Pashan) Road, Pune-411008						
Contact	Ms. Lipika Biswas Phone: +91-20-25865877 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</td> <td style="text-align: right; padding: 2px;">Rs 4000/-</td> </tr> <tr> <td style="padding: 2px;">Micro, small & medium enterprises/ individuals</td> <td style="text-align: right; padding: 2px;">Rs 6000/-</td> </tr> <tr> <td style="padding: 2px;">Large companies</td> <td style="text-align: right; padding: 2px;">Rs 8000/-</td> </tr> </table> <p>Limited seats: 15</p> <p>Register here: http://www.venturecenter.co.in/workshops/index.php</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	Rs 4000/-	Micro, small & medium enterprises/ individuals	Rs 6000/-	Large companies	Rs 8000/-
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Introduction

The aim of this two day workshop is to cover the fundamental concepts of flow cytometry in order to provide a clear and deep understanding of the important aspects in flow cytometry. Through lectures and wet labs, participants will learn core concepts in experimental design, data acquisition, sample quality, titration, staining, compensation, controls, troubleshooting, data analysis, and presentation. In summary, this workshop will help the researchers to learn and better understand the complexities of flow cytometry the correct way, which will help them in their current and future research projects requiring use of flow cytometry.

Course Outline

Talks

Principles and applications of flow cytometry, Threshold, KYC: Know Your Cytometer, Designing of flow cytometry experiment, Controls in flow cytometry, Flow data analysis, Flow data presentation (MIFlowCyte), Troubleshooting

Hands-on lab sessions

Setting up PMTV, QA & QC, Titration, Sample quality, Compensation, Flow data analysis (using software)

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
Day 1, 23rd November 2015	
0830-0900	Registration
0900-0915	Introduction to the course and faculty
0915-1045	Introduction to Flow Cytometry and its Application
1045-1115	Tea/Coffee Break
1115-1315	KYC: Know Your Cytometer – Decoding the Black Box (Lab 1) Know your instrument Perform correct QA and QC and understand the report Selecting the best PMTV and threshold for the experiment Selection of fluorochromes / selection of right antibodies How to avoid Garbage In / Garbage Out phenomenon
1315-1400	Lunch
1400-1545	Compensation and Visualizing Data (Lab 2) What is compensation and it's importance How to perform compensation (manual/automatic) Understanding the spectral overlap (using spectral viewer) and its correction Understanding data spreading and bi-exponential scaling
1545-1600	Tea/Coffee Break
1600-1730	How to select the optimal amount of antibodies? (Lab 3) Antibodies Titration How volume, number of cells and experimental conditions affect antibodies titration?
Day 2, 24th November 2015	
0900-0930	Review of Day 1
0930-1100	Control the flow cytometry by using right controls Experimental controls, Isoclonic controls, Isotype controls, FMO, Biological controls, Internal controls
1100-1115	Tea/Coffee Break
1115-1300	Sample quality (Lab 4) Importance of dead cell marker How to remove aggregates and clumps Time parameter and its importance
1300-1400	Lunch
1400-1500	Basics of flow data analysis and presentation – What to do and what not to do? Discussion about Fundamental graphical Display, Gating strategy and Statistics Introduction to MiFlowCyte: Data Presentation Guidelines
1500-1600	Flow data analysis (Lab 5)
1600-1615	Tea/Coffee Break
1615-1700	Flow data analysis (Lab 5) continued
1700-1730	Troubleshooting in flow cytometry
1730-1800	Test and Valedictory



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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 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/</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>