



Venture Center  
 100, NCL Innovation Park  
 Dr. Homi Bhabha Road, Pune –411008  
 Email: [eventsdesk@venturecenter.co.in](mailto:eventsdesk@venturecenter.co.in)  
 Phone: +91-20250934

Technical Workshops Series – 2012

**5 Days workshop on Animal Tissue Culture**  
 - Organized by Venture Center -

<b>Learn</b>	<p>Principles and applications of tissue culture, Characterization of cell lines, Tissue culture media, Cryopreservation and cell banking</p> <p><b>Cell culture techniques: Demonstrations and Hands-on lab experiments -</b>          Cell counting and viability determination, Subculture of cell lines, Development of growth curves, Replicate culture set up, Coverslip cultures.</p> <p>Quick update on latest techniques / developments.          Large scale production of cultured cells;          Specialized applications- Monoclonal antibodies, Stem cell cultures;          Primary cultures and its applications, Organ and organotypic cultures;          Workshop is intended to be basic.</p>
<b>Organized by</b>	Venture Center – a Technology Business Incubator
<b>For whom</b>	<ul style="list-style-type: none"> <li>Biotechnology, Pharmaceuticals industry professionals</li> <li>Students and staff of various disciplines of life sciences, Medicine</li> </ul> <p>Maximum 20 seats; First-come-first-serve.</p>
<b>When</b>	September 11-15, 2012
<b>Where</b>	Training Room and Lab Block, Venture Center, 100 NCL Innovation Park, Dr. Homi Bhabha Road, Pune-411008
<b>Contact</b>	<p>Ms. Lipika Biswas          Venture Center, 100, NCL Innovation Park,          Dr. Homi Bhabha Road, Pune – 411008;          Phone: +91-20-20250934          Email: <a href="mailto:eventsdesk@venturecenter.co.in">eventsdesk@venturecenter.co.in</a></p>
<b>Cost</b>	<ul style="list-style-type: none"> <li>Students with valid ID card: Rs 5,000</li> <li>Micro and small enterprises/ individuals: Rs 7,000</li> <li>Medium and large companies/ others: Rs 10,000</li> </ul>



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### Introduction

Animal tissue culture plays a substantial role in the field of Biotechnology. It is one of the major tool in basic research as well as in modern medicine in terms of development and production of new vaccines and therapeutic and diagnostic products. Some of the important areas in which cell culture has currently a major role are cancer research, toxicity testing, virology, immunology, cytogenetics, stem cell biology, drug screening and development, cell based manufacturing, genetic engineering and gene therapy and developmental biology. However, cell culture requires a certain amount of skill. Therefore there is a need for researchers and those who are involved in life sciences to have a solid understanding of cell culture technology.

The workshop is designed to provide the same through theory sessions and lab exercises. Topics included in the workshop are Principles and applications of cell culture, Tissue culture lab set up, lab safety and aseptic techniques, Basics of media and supplements for cell culture, Characterization and subculturing of cell lines, Cell counting and viability determination, Development of growth curves, Replicate culture set up, Coverslip cultures, Large scale production of cultured cells, Applications of cell culture technique and cell behavior, Specialized applications- monoclonal antibodies, Stem cell cultures, Primary cultures and its applications, Organ and organotypic cultures, Cryopreservation and cell banking.

### Course Outline

- The workshop will include theory as well as hands-on lab exercises and demonstrations at Venture Center.
- Talks by eminent faculty from various research institutes and industry.
- Tour of National Center for Cell Science to see various cell culture facilities and cell repository.

### Course includes

- Hand out and workshop material
- Access to restricted website with online compilation of resources of archival value
- Certificate of Participation issued by Venture Center
- Tea and lunch at Venture Center cafeteria



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### Tentative schedule

	L = Lecture, D = Demo, P = Practical	Batch 1	Batch 2	Batch 3	Batch 1+2+3		
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11-Sep-12	Training room	Inoculation room & LML	BHSL-1	BHSL-2	Lab 6	Lab 2&3	Meeting room
8:30 to 9:00	Introduction						
9:00 to 9:15	Assessment						
9:15 to 10:15	L1:Overview of Animal tissue culture Lead: Dr Sudha Gangal						
10:15 to 11:00	L 2:Tissue culture media Lead: Dr Alpana Moghe						
11:00 to 11:30	Tea break						
11:30 to 12:00			Batch 1 D1:Cell culture lab Lead: Ketaki		Batch 2 P1:Pipetting Lead: Shama		Batch 3 video
12:00 to 12:30			Batch 2 D1:Cell culture lab Lead: Ketaki		Batch 3 P1:Pipetting Lead: Shama		Batch 1 video
12:30 to 13:00			Batch 3 D1:Cell culture lab Lead: Ketaki		Batch 1 P1:Pipetting Lead: Shama		Batch 2 video
13:00 to 14:00	Lunch break						
14:00 to 14:30			Batch 1 P2:Microscopic examination of cells Lead: Jayashree	Batch 2 D2: Sterilization-autoclaving Lead: Ketaki	Batch 3 D3: Sterilization-filtration Lead: Shama		
14:30 to 15:00		Batch 1 P5: Subculture monolayer P6: Coverslip culture Lead: Jayashree	Batch 2 P2: Microscopic examination of cells Lead: Ketaki				Batch 3 VC Tour
15:00 to 15:30	Batch 2,3 Tea break						
15:30 to 16:00						Batch 3 D4: Replicate culture & viable cell count Lead: Shama	Batch 2 P4: subculture cells in suspension Lead: Ketaki
16:00 to 16:30							
16:30 to 17:00					Batch 3 P7: Growth curve-Viable		
17:00 to	Batch 1						



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17:30	Tea break				cell count Lead: Shama			
12-Sep-12								
9:00 to 10:00	L3:Characterization of cell lines - I Lead: Dr Avinash Bhisey							
10:00 to 10:30	Tea break							
10:30 to 11:00			Batch 3 P2:Microscopic examination Lead: Ketaki	Batch 2 D3: Sterilization by filtration Lead: Jayashree	Batch 1 D4: Replicate culture & viable cell count Lead: Shama			
11:00 to 11:30		Batch 2 P5: Subculture monolayer P6: Coverslip culture Lead: Jayashree				Batch 3 P4: subculture cells in suspension Lead: Ketaki		
11:30 to 12:00					Batch 1 P7: Growth curve-Viable cell count Lead: Shama			
12:00 to 12:30								
12:30 to 13:00								Batch 1 VC Tour
13:00 to 13:30								
13:00 to 14:00	Lunch break Batch 1,3							
13:30 to 14:30	Lunch break Batch 2							
14:00 to 14:30		Batch 3 P5: Subculture monolayer P6: Coverslip culture Lead: Jayashree			Batch 2 D4: Replicate culture & viable cell count Lead: Ketaki	Batch 1 P4: subculture cells in suspension culture Lead: Shama		
14:30 to 15:00								
15:00 to 15:30					Batch 2 P7: Growth curve-Viable cell count Lead: Ketaki			
15:30 to 16:00				Batch 1 D2: Sterilization autoclave Lead: Shama				
16:00 to 16:30	Batch 1,2 Tea break							
16:30 to 17:00	Batch 3 Tea break				Batch 1 D3: Sterilization by filtration Lead: Shama		Batch 2 VC Tour	
13-Sep-12								
9:00 to 10:00	L4:Characterization of cell lines – II Lead: Dr Avinash Bhisey							
10:00 to 11:00	L5:Specialized applications - Stem cell cultures							



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	Lead: Dr Ramesh Bhonde						
11:00 to 11:30	Tea break						
11:30 to 12:15	L6:Chick embryo culture Lead: Dr Savita Datar						
12:15 to 13:15	Lunch break						
13:15 to 14:30						Batch 1,2,3 P9:Chick embryo culture Lead: Dr Datar	
14:30 to 15:00	Tea break						
14:45 to 17:30	Tour of cell repository						
14-Sep-12							
9:00 to 10:00	L7:Organ and Organotypic cultures Lead: Dr Padma Shastry						
10:00 to 11:00	L8:Applications of cell culture technique and cell behavior Lead: Dr Ulhas Wagh						
11:00 to 11:30	Tea break						
11:30 to 12:30	L9:Specialized applications - Monoclonal antibodies Lead: Dr Sudha Gangal						
13:30 to 14:30	Lunch break						
14:30 to 15:30	L10:Large scale production of cultured cells Lead: Dr Rajeev Dhere						
15:30 to 16:00	Tea break						
16:00 to 17:00						Batch 1,2, 3 P8:Giemsa staining Lead: Ketaki	
15-Sep-12							
9:00 to 10:00	Lecture 11: Primary cultures and its applications Lead: Dr Alpana Moghe						
10:00 to 11:00	Tea break						
11:00 to 12:00						Batch1,2,3 P9:Chick embryo culture Lead: Dr Datar	
12:00 to 13:00	Lunch break						
14:30 to 15:00	Growth curve construction and analysis						
15:00 to 15:30	Feedback and certificate distribution						






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Course Director	
	<p><b>Dr. Sudha Gangal</b> Former Research Director, Wadia children's Hospital, Mumbai Former Head, Immunology Division, Cancer Research Institute, Tata Memorial Centre, Mumbai</p>
Other Faculty	
	<p><b>Dr. Alpana Moghe</b> Associate Professor and HOD, Department of Cell &amp; Molecular Biology Rajiv Gandhi Institute of IT and Biotechnology, Pune</p>
	<p><b>Dr. Avinash Bhisey</b> Former Director, Cancer Research Institute (CRI) and Tata Memorial Centre, Mumbai</p>
	<p><b>Dr. Rajeev Dhere</b> Senior Director-Vaccines, Serum Institute of India</p>



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	<p><b>Dr. Ulhas Wagh</b> Director Grade Scientist, Research Cadre, I C M R. Founder Director, National Centre for Cell Science, Pune Founder Director, I R S H A, Pune</p>
	<p><b>Dr. Ramesh Bhonde</b> Former Technical Director, Stempeutics Research Pvt. Ltd Professor &amp; Dean, Manipal Institute of Regenerative Medicine, Bangalore</p>
	<p><b>Dr. Padma Shastry</b> Scientist 'G', National Centre for Cell Science, Pune</p>
	<p><b>Dr. Savita Datar</b> Associate Professor and Head, Department of Zoology, S. P. College, Pune</p>

#### About the organizers

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



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Center's 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>