Two Day Intensive Workshop on

Confocal Microscopy

- Organized by Cell Studio @ Venture Center -

Gains	Learn from experts: Principle and applications of Confocal Microscopy; Advanced applications of Confocal microscopy; Best practices; Live demonstrations on Leica SP8 CLSM; 3D imaging; Time lapse cinematography; Hands-on sessions on sample preparation for immunofluorescence staining; apoptosis detection
Organized by	Cell Studio @ Venture Center
Supported by	Venture Center
For whom	• Industry professionals • Researchers, Students Maximum 20 seats; First-come-first-serve.
When	Thursday-Friday | 20 - 21 June 2024 | Time 0900-1700 hrs
Where	Venture Center, 100 NCL Innovation Park, Dr. Homi Bhabha Road, Pune-411008
Contact	**Technical:** Vandana M|vandana@venturecenter.co.in | +91-8956457043 **Registration & Payment:** Vineet Joshi|vineet.joshi@venturecenter.co.in |+91- 9156465141

Registration	• **Registration is mandatory**
	• **Registration fees:**
	  • Students with valid ID card / VC resident companies: **Rs 3000**
	  • Micro, small and medium enterprises/ individuals: **Rs 4000**
	  • Industry: **Rs 6000**
	• Registration Process:
	  ○ Step 1: Interested participants need to fill in registration form at the
	  ○ **Register here:** https://forms.gle/oRyWDBo4K8njWidS6
	  ○ Step 2: Payment details will be shared via email to participants post screening of registration details and seat will be confirmed only after receipt of payment.
	NOTE:
	• More details at:
	• **REGISTRATIONS AND FINAL PAYMENT DEADLINE Registration closes once 20 seats are full or 4 days prior to the workshop (whichever comes sooner)**
	• ***Fees paid is not refundable and non transferable under any circumstances***
	• The organizers reserve the right to accept or refuse or delay registrations so as to optimize the composition of the group and hence maximize learning for all participants

Introduction

This workshop provides a solid background on the use of light microscopy, especially laser confocal microscopy (LCM), as a tool to study cell biology at the molecular level.
The course consists of lectures which will give necessary theoretical background about LCM and lab sessions will be conducted on Leica SP-8 confocal laser scanning microscope.
The workshop will be conducted by an expert having vast experience working in the field of LCM.
The participants will also learn best practices in microscopy, troubleshooting and maintenance of microscopes. The workshop shall also discuss some recent trends and new developments.

Terms and Conditions for Participants

- Participants to arrange for their travel and accommodation
- Attendance is mandatory for all sessions once registration is confirmed.
- No sessions will be repeated if a participant is unable to attend due to any reasons.

Course includes

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

Course Outline

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

- **Talks**– Basics of bright field microscopy, Fluorescence microscopy, LCM & its applications, Advanced applications of LCM& Laser sheet microscopy
- **Demonstrations** – Instrumentation of microscope, LCM, 3D imaging, Sample preparation for immunofluorescence staining, Time lapse cinematography, Apoptosis detection

Schedule			
Time	**Session title**	**Lead**	**Venue**
Day 1			
0830 – 0845	Registration		
0845 – 0900	Introduction to the course and faculty	Sujaya Ingale	Lecture Theatre, NIP 900
0900 – 1030	Lecture 1**–Basics of bright field & Fluorescence microscopy**	Dr. Nishigandha Naik	Lecture Theatre, NIP 900
1030 – 1100	Tea / Snacks break		Canteen
1100 – 1300	Lecture 2 – **LCM & its applications**	Dr. Nishigandha Naik	Lecture Theatre, NIP 900
1300 – 1400	Lunch break		Canteen
1400 – 1500	Lab 1 – **Instrumentation & LCM demo -3D imaging, Apoptosis detection**	Vandana M	Cell Studio, NIP 600
1500 – 1530	Tea break		Canteen
1530 – 1700	Lab 2 – **Sample preparation for immunofluorescence staining.**	Dr. Upasana Narula	Cell Studio, NIP 600
Day 2			
0900 – 1100	Lecture 3 – **Advanced applications of LCM & Laser sheet microscopy**	Dr. Nishigandha Naik	Lecture Theatre, NIP 900
1100 – 1130	Tea break		Canteen
1130 – 1200	Lab 3 – **Sample preparation contd.**	Dr. Upasana Narula	Cell Studio, NIP 600
1200 – 1300	Lab 4 – **Time lapse cinematography**	Vandana M	Cell Studio, NIP 600
1300 – 1400	Lunch break		Canteen
1400 – 1530	Lab 5 –**Image acquisition and analysis**	Vandana M	Cell Studio, NIP 600
1530 – 1600	Tea break		Canteen

1600 – 1700	Concluding session – Feedback, Certificate distribution		Training Room, NIP 900

Anchor faculty	
	**Dr. Nishigandha Naik** Adjunct Professor at the G N Khalsa College, Mumbai and Institute of Chemical Technology, Mumbai. She has more than thirty years of research experience in academia as well as industry. Her work is in the field of cancer cell biology, imaging, snake venom and pre-clinical drug discovery. Dr. Naik was instrumental in establishing the Institute's Laser Confocal Facility at CRI. She is now known as the expert in the field of preclinical imaging. She also contributed to the Flow Cytometry and Live Cell Imaging Facilities of the Institute.
	**Vandana M** Senior Associate- Scientific Services, Venture Center, Pune Holds a Master's degree in Microbiology and possesses a diverse background. With two years of experience in quality control and scientific services at a startup incubator, she has also accumulated three years of expertise in laboratory operations within academic institutes. Her specialized skills are molecular biology and cell culture.
	**Dr Upasana Narula** Assistant Manager- Scientific Services, Venture Center, Pune Completed her Ph.D. at CSIR-IITR in Lucknow and subsequently served as a Postdoctoral Fellow at NCCS, Pune for a duration of six years. Her specialized areas of expertise encompass toxicology, cancer biology, and stem cell biology

About Organizers	
	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: https://venturecenter.co.in/cellstudio/
	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. For more information, visit: https://www.venturecenter.co.in/bionest/
	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'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: https://venturecenter.co.in/

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