

Hands-on Training

on

Cell Culture and Live Cell Imaging

14th July 2022 (Thu) – 20th July 2022 (Wed)

काशी हिन्दू
विश्वविद्यालय



BANARAS HINDU
UNIVERSITY



Organized by:

Nanotechnology Laboratory,
Department of Zoology, Institute of Science,
In association with SATHI, CDC,
Banaras Hindu University, Varanasi-221005

Funded by:

Science & Engineering Research Board (DST-SERB) under the Accelerate Vigyan Scheme

Advisory Board

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Convener:

Prof. Preeti Suman Saxena,
Department of Zoology,
Institute of Science, BHU, Varanasi

About the Institute

The Banaras Hindu University campus is among the world's largest residential universities with over 27000 graduate and post graduate students, over 5000 Research scholars and 2200 serving faculty members. The campus is spread over 1300 acres at Varanasi and 2700 acres in its South campus at Barkaccha, Mirzapur. It was established in the year 1916 jointly by the Maharaja of Darbhanga Rameshwar Singh, Maharaja of Banaras Prabhu Narayan Singh, Madan Mohan Malaviya, Sunder Lal and British Theosophist and Home Rule League founder Annie Besant. With over 30,000 students residing on campus, it is the largest residential university in Asia. The Banaras Hindu University is among the world's largest residential universities, comprising 6 institutes, 16 faculties, 140 departments, many centers of advanced studies, 05 interdisciplinary schools with a vast knowledgebase. The Banaras Hindu University has been given the status of Institution of Eminence (IoE) by the Ministry of Human Resource and Development, Government of India in September 2019. The Vision of University is to develop several technologies as well as technological leads and generate patents. These will require dedicated start-ups for translating them into technologies for products, processes and services and make it available for society.

About the Department

The Department of Zoology, Banaras Hindu University has been founded in 1921. The department is one of the oldest and pioneer in Zoology teaching in India. It is offering undergraduate, post graduate and research programmes in Zoology. In recognition of the high level of attainments in teaching and research, the department has been evaluated as Center of Advanced Study level 6 by the UGC. The department has been also supported by COSIST (UGC), FIST-II (DST) and extramural research funding from various national and international agencies.

About the Course

This course will be conducted under Accelerate Vigyan scheme intended towards "Abhyaas" mission program of Science and Engineering Research Board, Department of Science and Technology, Government of India.

The hands-on training workshop will include modules for important cell culture techniques related to cell line maintenance, passaging, cell counting, Live Cell Imaging, cell-cycle analysis, Flow cytometry etc.. Participants from academic institutions (PG and PhD students from universities and colleges) from all over the country are encouraged to apply.

The course shall be conducted through physical mode only.

Target Participants

Motivated Doctoral & Master's students from **Tier-II & Tier-III** level institutes as defined under the Scheme 'Accelerate Vigyan' by DST-SERB.

Convener / Event Organizer

Prof. Preeti Suman Saxena,
Department of Zoology,
Institute of Science, BHU,
Varanasi
Email: pssaxena@bhu.ac.in

Support Team

Dr. Umakant Yadav, BHU, Varanasi
Mr. Adarsh Kumar Pandey, SATHI-BHU, Varanasi
Mr. Suyash Rai, BHU, Varanasi
Ms. Kirti Singh, BHU, Varanasi
Ms. Poonam Jangir, BHU, Varanasi
Mr. Manish Nath Tripathi, BHU, Varanasi
Mr. Punit Tiwari, IMS-BHU, Varanasi

Objective of the Course

- As desired by DST-SERB **KARYASHALA**, the course is intended towards “**Abhyaas**” mission.
- Innovative design for Hands-on Training on **Cell Culture and Live Cell Imaging**.
- Necessity to create benchmarks that would identify High-End State of the Art Scientific Equipments presence around us.

Key Features

- **Cell Culture & Microscopy techniques**
- High-End State of Art Scientific Equipment necessity.
- Researchers connection is also enhanced by networking and ease of access, which contributes to scientific development.

Registration and Guidelines

- **The participants will be limited to 25 candidates (as per SERB norms).**
- Organizing Committee reserves the right to devise a well defined shortlisting criteria for selection of candidates based on the basic eligibility criteria laid out by SERB and as per formulated guidelines for this workshop.

Course Assessment and Feedback

- Active participation in lectures & discussion / interaction sessions along with a basic level evaluation shall fetch the participant the KARYASHALA Course Completion Certificate.
- As per SERB guidelines, mandatory anonymous course feedback shall be taken in the stipulated format.

Important Dates

- **Last date for registration : 07-07-2022**
- **Notification to selected participants : 08-07-2022**

Registration Fee

- Registration Fee: Rs.1000
- Pay the fee: 08-07-2022
- **Please fill Google form for Registration:**
- <https://forms.gle/wurMSaMgDL3Uh9pi6>

Contact Details

- In case of any difficulty, Please contact:
 - +91-7991664799
 - +91-9716394684
- Email: dstkaryashalbhu@gmail.com

Programme Schedule

Schedule	10.00 am – 1.00 pm		1.30 pm-2.30 pm	2.30 pm – 5.00 pm	
	Tentative Topic & Speaker		LUNCH	Tentative Topic	Speaker
Inaugural Session (14-07-2022)					
Day -1 (14-07-2022)	Inaugural Session	Bacteriophage Therapy: From Promises to Practice (Prof. G. Nath, IMS-BHU)	LUNCH	Demo on Bacterial & Bacteriophage Culture	Prof. G. Nath/Mr. Virendra
Day -2 (15-07-2022)	Basics of Cell Culture Techniques (Dr. Vinod Kumar, SGPIMS)	Fungal Endophytes and Their Role in Drug Discovery and Development (Dr. Santosh Kumar Singh, CEMS-BHU)		Handling of Equipment's and Preparation of Solutions for Cell Culture	Prof. P.S. Saxena./ Mrs Poonam /Ms. Kirti
Day -3 (16-07-2022)	3-D Animal Cell Culture (Dr. Vinod Kumar, SGPIMS)	Novel Nucleoside Analogue FNC Induce, Apoptosis in Lymphoma Cells-Assessment Through Novel Tools and Technique (Prof. A. Acharya, BHU)		Handling of Cell Lines & Lab Visit	Dr. Vinod Kumar/ Dr. Umakant /Ms. Kirti
Day -4	17-07-2022 (Sunday) Field Visit and Sight Seen				
Day -5 (18-07-2022)	Basics of Animal Cell Culture (Dr. Ajay Kumar, BHU, Varanasi)		LUNCH	Live/dead Cell Imaging and MTT Assay & Flow Cytometry	Dr. Umakant /Ms. Kirti/ Poonam
Day -6 (19-07-2022)	Principles, Functions and Applications of Photo-acoustic Imaging System (Dr. A. Mondal, IMS-BHU)	Principle of Microscopy: From Simple Microscope to Confocal and Super-resolution (Prof. J. K. Roy, BHU)		Live Demo and Hands-on Photo-acoustic Imaging & Lab Visit	Dr. A. Mondal, IMS-BHU, Varanasi
Day -7 (20-07-2022)	Introduction of Electron Microscopy and its Applications (Prof. A. Srivastava, BHU)			Live Demo on Live Cell Imaging	Dr. Umakant /Ms. Kirti/
Valedictory Session: 4.00 pm to 5.00 pm (20-07-2022)					