



Department of Biotechnology, NIPER S.A.S.
Nagar

organizes

High-End Workshop 'KARYASHALA' Funded by
Science and Engineering Research Board
(SERB)

under the

ACCELERATE VIGYAN SCHEME

On

'FLOW CYTOMETRY- CELL DEATH AND DRUG DISCOVERY'

October 17th-23th, 2021 (Virtual Mode)



Flow cytometry is an important technique which helps to determine physical and chemical features of particles or a cell population and facilitates sorting of heterogeneous cell populations into specific types. Flow cytometry uses fluorescent probes to identify and characterize cell populations. This technique is critical in drug discovery when we want to study the mechanism of cell death. Generation of cellular/mitochondrial Reactive Oxygen Species (ROS), change in mitochondrial membrane potential, DNA fragmentation are important markers of cell death. We aim to train students in how FACS facilitates in the study of these parameters. Our objective is to train the PG/PhD students in the basics of FACS and its applications in apoptotic or necrotic mode of cell death. This is important to understand the mechanism of cell killing mediated by potential antimicrobial drugs.

Key Features of the Karyashala

- Instrument setup and filters
- Basics of flow cytometry
- Sample preparation
- Assays- Annexin V-PI staining, ROS, JC-1, TUNEL
- Analyzing the output and experimental data
- Invited lectures from experts
- End-of-day quiz and discussion





NIPER S.A.S. Nagar

National Institute of Pharmaceutical Education and Research (NIPER) is the first national level institute in pharmaceutical sciences with a proclaimed objective of becoming a centre of excellence for advanced studies and research in pharmaceutical sciences. The Government of India has declared NIPER as an 'Institute of National Importance'. It is an autonomous body set up under the aegis of Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Government of India. The Institute is conceived to provide leadership in pharmaceutical sciences and related areas not only within the country, but also to the countries in South East Asia, South Asia and Africa. NIPER is a member of Association of Indian Universities and Association of Commonwealth Universities.

Department of Biotechnology

The laboratories in the department are working in the areas of cell biology, biochemistry, immunology, molecular biology, microbiology, parasitology, cell culture, and membrane drug interaction. The department is actively pursuing research in the following areas.

- Targeting signal transduction involved in microbial drug resistance
- Identification of new target protein(s) in insulin mediated signal transduction and in insulin resistance
- Enzyme drug interaction of medically important enzymes (Xanthine oxidase ,HMG-CoA reductase etc.)
- Membrane drug interaction for better understanding of tissue specific drug targeting
- Proteomic analysis of yeast and mammalian cell to identify genes that regulate aging and knowledge-based pathway building using informatics to understand set of circuits involved human longevity
- Applied recombinant DNA technology for production of commercially important biochemicals



Patron

Prof. Dulal Panda
Director, NIPER S.A.S. Nagar

Chairman

Prof. Kulbhushan Tikoo
Professor & Head, Dept of
Pharmacology & Toxicology
In-charge, Dept. of Biotechnology

Workshop Coordinator/ Event Organizer

Dr. Sushma Singh
Assistant Professor
Dept. of Biotechnology

Scientific committee

Dr. Ipsita Roy
Associate Professor
Dept. of Biotechnology

Dr. Abhay H. Pande
Associate Professor
Dept. of Biotechnology

Dr. N. Kishore Babu
Technical Assistant
Dept. of Biotechnology

Technical committee

Mr. Rajwinder Singh
Head,
Computer Centre

Dr. Maneesh Kashyap
Scientist Gr. I,
Technical Cell

Sh. Nityanand Gahan
Assistant Gr. I
Accounts



Registration Procedure

1. Applications are invited from highly motivated PG/PhD students currently enrolled.
2. The applicants shall provide a letter of intent, undertaking and Curriculum Vitae, as well as a letter of authentication from their Head of the Department indicating their enrolment with the institute and "No Objection Certificate (NOC)" for permitting to undergo training in the workshop if selected. **(The template for the above documents can be accessed using the link: https://drive.google.com/folderview?id=1-4rNE_VfmRQodg6gGuPvMvdaW0WsF22j)**
3. All the applications received will be screened by screening committee. NIPER reserves the right to devise well-defined shortlisting criteria for the selection of candidates based on the basic eligibility criteria laid out by SERB and as per formulated guidelines for this workshop.
4. There is no registration fee for this workshop.
5. **Interested candidates have to register themselves through the following link: <https://forms.gle/ViAFkffZ3BcjnrP7>**
6. Selected participants will be intimated via email. Only 25 students will be selected.
7. The certificate shall be issued to the participants on the successful completion of the workshop.

Contact details-

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Email: sushmasingh@niper.ac.in

Any correspondence related to workshop should only be addressed to the following email Id: serb_karyashala2021@niper.ac.in

Important Dates:

Last date of registration: 5th October 2021

Intimation of selected participants: 9th October 2021