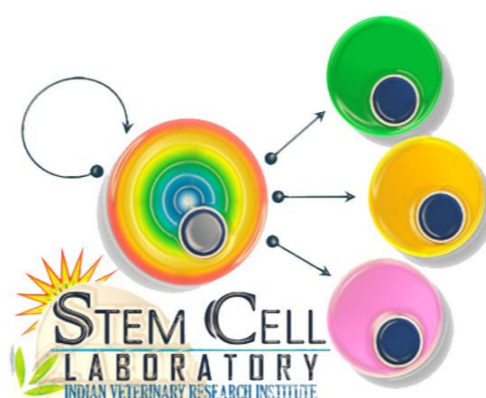




ACCELERATE
विद्यया



Basic Techniques for Stem Cell Research

(Under the KARYASHALA Scheme - A SERB initiative)

Organized by:

Stem Cell Laboratory

Department of Veterinary Biotechnology

ICAR-Indian Veterinary Research Institute

Izatnagar, Bareilly, U.P. 243122

February 26 to March 06, 2024

About the Institute:

Indian Veterinary Research Institute (IVRI) is located at Izatnagar, Bareilly in Uttar Pradesh state. It is an advanced research facility in the field of veterinary science and allied branches. Initially established as Imperial Bacteriological Laboratory (1889 at Pune), the institute was renamed few time and finally post independence it was named as Indian Veterinary Research Institute. Currently it is one of the Deemed Universities under Indian Council of Agricultural Research (ICAR), New Delhi. IVRI conducts research, teaching and extension activities. The institute has 200+ scientists and 750+ students, runs 230+ different research projects in state of the art laboratories. Besides UG degree, IVRI offers 22 degree programmes at master level and 19 disciplines for PhD. For a detail, please visit the institute website: ivri.nic.in

About the Programme:

Stem cells are defined as cells with two basic features: a) perpetual self renewal, and b) differentiation. Self renewal property allows stem cells to grow in tissue culture dishes for an indefinite period and thus they supply cells required for research or therapy. On the other hand, when stem cells undergo differentiation, they convert into certain lineage of tissues. Stem cells are classified different ways, based on source and their ability to produce number/types of differentiated tissues. In the recent decades, it has been demonstrated that somatic cells can be induced to acquire stem cell properties. They are called Induced (Pluripotent) stem cells. Isolation and research on stem cells find different applications in learning developmental biology, and in regenerative medicine. For the benefit of participants ("future stem cell biologists"), the current workshop aims a) to provide them hands on training, b) to demonstrate them primary features of stem cells and c) to enrich their knowledge through lectures by eminent experts.

Thus, the current workshop has the following objectives:

- 1) To provide hands-on training on Basic Techniques for Stem Cell Research to UG (4th year or Advanced), PG and PhD students;
- 2) To prepare human resources for academia and business related to stem cell research and applications in biomedical science

Focus Areas

- How to grow stem cells
- How to preserve stem cells for long term applications (Cryopreservation)
- How to characterize and identify stem cells (Morphology, Immunostaining, Flow-cytometry, Imaging)
- How to assay proliferation of stem cells (MTT Assay, Gene expression studies, Real-time PCR)
- How to differentiate stem cell (Detection by histochemistry)
- How to analyze and document data of stem cells (Bioinformatics)
- Learning about different stem cells and development biology (Production of cardiomyocytes, pancreatic islets, stem cells for retinal disorders, early progenitors, Organoids, organ on chip, interspecies chimerism)

Target Audience: Students pursuing studies at UG (4th year or above), PG and PhD level

Resource Persons: The course faculty includes resource persons from IVRI, other national institutes and for online lecture, experts from abroad (USA, UK, Netherlands, Israel, and Australia)

The number of participants is restricted to 20.

Registration Fee: Nil.

TA and accommodation will be provided to participants as per the SERB Accelerate Vigyan norms.

How to apply:

1. Please fill the online form using the link: <https://forms.gle/icmLFa4ertG2fCx1A>
 - a. After applying through the link, intimate us at stemcellworkshopivri@gmail.com
 - b. The last date to apply is **15 January 2024 (Deadline)**. If selected, you will be intimated through email.

Course Director (Event Organizer):

Dr. Sujoy K. Dhara

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