



Dr. B. R. Ambedkar Center for Biomedical Research (ACBR)
University of Delhi, North Campus



Hands-on Workshops

Time: 10:00 AM to 5:00 PM
Venue: Animal House Facility, ACBR

4th December, 2025

Workshop 1

Advanced Neurosurgical techniques in Rodents: Stereotaxic Surgery, Intracerebral Injections, and EEG Electrode Implantations

Eligibility: Ph.D scholars and postdoctoral fellows (30 seats)

Expert Talk by

Dr. Surender Singh

Veterinary Officer

National Institute of Immunology, Delhi

5th December, 2025

Workshop 2

Basic Animal Experimental Techniques for Cardiovascular Research

Eligibility: Faculties (25 seats) and Ph.D scholars/PDFs (5 seats)

Expert Talk by

Prof. Harmeet Singh Rehan

Head of the Department of

**Pharmacology
Lady Hardinge Medical College,
New Delhi**

6th December, 2025

Workshop 3

Advanced Surgical Skills: Arterial and Venous Cannulation in Laboratory Rats for Cardiovascular and Translational Research

Eligibility: Ph.D scholars and postdoctoral fellows (20 seats)

Expert Talk by

Dr. Dinesh Mani Tripathi

Associate Professor, Institute of Liver and Biliary Sciences, New Delhi

Dr. Md. Mateen Zehgeer

Veterinary Officer, Central Animal House Facility, Jamia Hamdard, New Delhi

Workshop Organising Team

Chief Guest

Prof. K. Ratnabali
Dean, Academic Affairs,
University of Delhi

Chairperson

Prof. Sunit K. Singh
Director, ACBR,
University of Delhi

CCSEA Members

Prof. Harmeet Singh Rehan
Dr. Bhupinder Singh Kalra
Sr. Prof. Anju Katyal
Dr. Aparna Dixit
Dr. Surender Singh
Dr. Masroor Anwar
Dr. Vikas Kumar Jayswal

Organising Secretaries

Dr. Aparna Dixit
Workshop 1
Dr. Sanjay Kumar Dey
Workshop 2
Dr. Prem Praksah
Workshop 3

Workshop Coordinators

Workshop 1 (Neurosurgery)
Dr. Nitin Yadav (8447701492)
Priya
Radhika Mittal
Sweetie Yadav

Workshop 2 (Cardiovascular; Basic)
Vaibhav (9821867637)
Diksha Rani
Manish Kumar
Pulkit Soni

Workshop 3 (Cardiovascular; Adv.)
Moh Uzair
Azeem Ahmad
Chahak Singhal
Vaibhav Tiwari
Muhammad Afgan



Registration: Rs. 1,500/- for Ph.D scholars, Rs. 2,000/- for postdoctoral fellows, and Rs. 3000/- for faculties
Register at <https://forms.gle/2M28GtJ1vsmKMHkz6>
Last date for registration: 20th November, 2025

Instructions for the participants:

- The participant has to submit a non-refundable fee upon selection
- No accommodation will be provided



Anusandhan National Research Foundation (ANRF)

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Dr. B. R. Ambedkar Center for Biomedical Research (ACBR)
University of Delhi, North Campus
Hands-on Workshop

Day 1: Workshop 1: Advanced Neurosurgical Techniques in Rodents: Stereotaxic Surgery, Intracerebral Injections, and EEG Electrode Implantation
Thursday, 4th December 2025, Organizing Secretary: Dr Aparna Dixit

This workshop aims to provide participants with practical exposure to core and advanced neurosurgical techniques using rodent models. It will cover ethical handling, anesthesia and surgical protocols, and experimental approaches used in studying brain function and neurological disorders. Participants will gain hands-on experience in stereotaxic surgery, intracerebral injections, and EEG electrode implantation for preclinical neuroscience research.

10:00 - 10:05 AM	Introduction to the Workshop	Dr. Aparna Dixit
10:05 - 10:15 AM	Welcome Address	Prof. Sunit K. Singh, Director, ACBR
10:15 - 10:25 AM	Address by Chief Guest	Prof. K. Ratnabali, Dean, Academic Affairs
10:25 - 10:50 AM	Animal Handling & Maintenance	Dr. Surender Singh
10:50 - 11:00 AM	Interactive Session	Dr. Aparna Dixit
11:00 - 11:15 AM	Tea Break	
11:15 AM - 1:30 PM	Hands-On Session I	Dr. Nitin Yadav, Priya, Radhika Mittal, Sweety
1:30 - 2:00 PM	Lunch Break	
2:00 - 4:15 PM	Hands-On Session II	Dr. Nitin Yadav, Priya, Radhika Mittal, Sweety
4:15 - 4:30 PM	Certificate Distribution	Prof. Anju Katyal
4:30 PM - 4:45 PM	Valedictory Session	Dr. Aparna Dixit
4:45 PM - 5:00 PM	Tea Break	

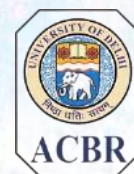
The session will begin with an expert lecture by Dr Surender Singh, Senior Technical Officer (Veterinary) at NII, Delhi, who will discuss the foundations of rodent surgery, ethical considerations in animal experimentation, and the translational relevance of neurosurgical models in studying epilepsy, neurodegeneration, and neural circuitry.

Participants will then engage in a series of hands-on sessions covering:

Session I: Stereotaxic rodent brain surgery, including precise positioning and targeting of specific brain regions using stereotaxic frames. Intracerebral microinjections, delivering tracers, viral vectors, or drugs into targeted brain areas.

Session II: EEG electrode implantation, enabling long-term neural activity recording in freely moving rodents. Anesthesia administration and intraoperative monitoring, ensuring proper animal care and welfare throughout surgical procedures. Post-operative care and recovery techniques, including wound management and analgesia to minimize distress.

By the end of the workshop, participants will gain hands-on experience in rodent neurosurgical techniques, including stereotaxic surgery and EEG electrode implantation. They will also learn essential animal handling, anaesthesia, and post-operative care. This training



Workshop Coordinators

Dr. Nitin Yadav (8447701492)

Priya, Radhika Mittal, Sweety Yadav

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Dr. B. R. Ambedkar Center for Biomedical Research (ACBR)
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Hands-on Workshop

Day 2: Workshop 2: Basic Animal Experimental Techniques for Cardiovascular Research
December 5th, 2025, Organising Secretary: Dr. Sanjay Kumar Dey

This workshop aims to provide participants with practical exposure to fundamental and applied techniques used in cardiovascular research using rodent models. It will cover ethical considerations, physiological monitoring, and experimental approaches used in studying cardiovascular function and disease mechanisms.

10:00 - 10:10 AM	Introduction to the Workshop	Dr. Sanjay Kumar Dey
10:10 - 10:20 AM	Welcome Address	Prof. Sunit K. Singh, Director, ACBR
10:20 - 11:00 AM	Basics of Cardiovascular Research in Small Animals	Prof. Harmeet Singh Rehan
11:00 - 11:15 AM	Tea Break	
11:15 - 11:25 AM	Interactive Session	Dr. Sanjay Kumar Dey
11:15 AM - 1:30 PM	Hands-On Session I	Pravesh Pokhriyal & JKL Prasad
1:30 - 2:00 PM	Lunch Break	
2:00 - 4:15 PM	Hands-On Session II	Pulkit, Diksha, Manish, Vaibhav
4:15 - 4:30 PM	Certificate Distribution	Prof. Sunit K. Singh, Director, ACBR & Prof. K. Ratnabali, Dean, Academic Affairs
4:30 PM - 4:45 PM	Valedictory Session	Dr. Sanjay Kumar Dey
4:45 PM - 5:00 PM	Tea Break	

The session will begin with an expert lecture by Prof. Harmeet Singh Rehan, Professor and Head of Pharmacology, Lady Hardinge Medical College, New Delhi, who will discuss the basics of cardiovascular research, ethical aspects of animal experimentation, and the translational relevance of animal models in hypertension, ischemia, and heart failure studies.

Participants will then engage in a series of hands-on sessions covering:

Session I: Non-Invasive Blood Pressure (NIBP) measurement in rodents using ADInstruments' systems. Telemetry-based cardiovascular monitoring, conducted by Mr. Pravesh Pokhriyal and Mr. J.K.L. Prasad, focusing on continuous data acquisition, ECG, heart rate, and blood pressure recording.

Session 2: Basic routes of drug administration (oral, intraperitoneal, subcutaneous, intravenous). Retro-orbital and tail vein blood collection techniques, emphasizing precision, animal welfare, and biosafety. Anesthesia and animal restraint procedures, along with monitoring of physiological parameters during experiments. Demonstrations of data interpretation and analysis using specific software for cardiovascular research.

By the end of the workshop, attendees will gain a comprehensive understanding of cardiovascular experimentation workflows, ethical compliance, and modern physiological recording systems, preparing them for independent research in preclinical cardiovascular biology.

Workshop Coordinators

Vaibhav (9821867637)

Diksha Rani, Manish Kumar, Pulkit Soni



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Day 3: Workshop 3: Advanced Surgical Skills: Arterial and Venous Cannulation in
Laboratory Rats for Cardiovascular and Translational Research
December: 6th, 2025, Organising Secretary: Dr. Prem Prakash

This workshop focuses on minimally invasive microsurgical techniques in rats to expose, locate, and identify arteries and veins with precision.

10:00 - 10:10 AM	Introduction to the Workshop	Dr. Prem Prakash
10:10 - 10:20 AM	Welcome Address	Prof. Sunit K. Singh, Director, ACBR
10:20 - 11:00 AM	Rodent Research with Emphasis on Humane Care & Animal Maintenance for Clean Reproducible Data	Dr. Mohan Kamthan
11:00 - 11:15 AM	Tea Break	
11:15 - 11:25 AM	Interactive Session	Dr. Prem Prakash
11:15 AM - 1:30 PM	Hands-On Session I	Dr. Dinesh Mani Tripathi
1:30 - 2:00 PM	Lunch Break	
2:00 - 4:15 PM	Hands-On Session II	Dr. Md. Mateen Zehgeer
4:15 - 4:30 PM	Certificate Distribution	Prof. Sunit K. Singh, Director, ACBR
4:30 PM - 4:45 PM	Valedictory Session	Dr. Prem Prakash
4:45 PM - 5:00 PM	Tea Break	

Participants will learn surgical site preparation, sterile handling, and the proper use of microsurgical instruments for delicate tissue dissection. Emphasis will be placed on gentle handling to avoid injury to sensitive structures, careful cleaning, isolation of vessels, and development of fine surgical skills.

Participants will then engage in a series of hands-on sessions covering:

Session I: Anaesthesia procedures and assessment of depth of anaesthesia; Preparation of the surgical site (emphasis on humane endpoints); Femoral/ carotid artery cannulation for blood sampling and hemodynamic monitoring using:

- Fluid-filled pressure transducer
- Micro-Tip solid-state pressure catheter

Session 2: surgical exposure of the trachea; Tracheal intubation for positive pressure ventilation for thoracic cavity opening and exposure of the beating heart.

The training includes step-by-step guidance on artery and vein cannulation techniques, securing catheters and maintaining vessel patency, preparing participants to perform high-quality vascular surgery essential for cardiovascular and translational research.



Workshop Coordinators

Moh Uzair, Azeem Ahmad
Chahak Singhal, Vaibhav Tiwari,
Muhammad Afgan