

Certificate Program in Microbial Research (CPMR)

Duration: 15 Days | Format: Hands on Training

Mahavir Cancer Sansthan & Research Centre (MCSRC) in Phulwarisharif, Patna, is a leading, 618-bed charitable cancer hospital in Eastern India inaugurated in 1998. It specializes in comprehensive, affordable cancer care, including radiation, medical and surgical oncology, with a focus on treating economically weaker patients. **Microbiology** is central to healthcare, biotechnology, agriculture and environmental sciences and trained professionals are in high demand. A structured certification program ensures that students gain hands-on experience in microbial culture techniques, diagnostics, biosafety practices and applied research methods which are often not fully covered in traditional degree curricula. By providing a recognized credential, this program enhances employability, supports career advancement, and equips students with the skills necessary to contribute meaningfully to research, industry, and public health initiatives. **Research Department** of Mahavir Cancer Sansthan and Research Centre (MCSRC) offers a fundamental training and **Certificate Program in Microbial Research (CPMR)**. The program specially designed for students and researcher from any University/Institute and Industry person.

Program Framework

- **Target Audience:** Students/ Faculties/ Scientists
- **Entry Requirement:** Basic knowledge of Microorganism
- **Certification Type:** Institutional (with practical competency validation)
- **Batch Size:** 10 participants (for optimal hands-on training)

Structured Training Plan

Week-1	Module	Theory Components	Practical Training	Competency Outcome
	Orientation & Fundamentals	Introduction to Microbiology and Microbial Research	Microbiology Laboratory visit	Enabling trainees to learn about basic setup of Microbiology Laboratory
	Good Laboratory Practice: Principles and Applications in Microbiology Research	Standard Guideline Sampling methodology (water, soil, clinical and food)	Hands On training Sampling methodology (water, soil, clinical and food)	Enabling trainee to learn about different kinds of sampling methodology
	Different kinds of Media	Theory related to different kinds of media required for microbial growth	Hands On Different kinds of media preparation (Solid, Semi-Solid and Liquid)	Enabling trainee to learn about Media Preparation and Sterilization
	Different kinds of Streaking methodology	Introduction to different kinds of streaking method used for pure culture technique	Hands on different kinds of streaking method used for pure culture technique	Enabling trainee to learn about different kinds of streaking method used for pure culture technique

Week-1	Module	Theory Components	Practical Training	Competency Outcome
	Different kinds of Pure culture preparation methods	Different kinds of Pure culture preparation methods (Serial Dilution, Pour Plate and Spread Plate Method)	Hands On Different kinds of Pure culture preparation methods (Serial Dilution, Pour Plate and Spread Plate Method)	Enabling trainee to Different kinds of Pure culture preparation methods (Serial Dilution, Pour Plate and Spread Plate Method)
	Isolation and Identification of different kind of microbes	Theory related Isolation and Identification of different kind of microbes	Hands on Isolation and Identification of different kind of microbes	Enabling trainee to learn Isolation and Identification of different kind of microbes
		SUNDAY		
Week-2	Module	Theory Components	Practical Training	Competency Outcome
	Identification of different types of Bacteria through Biochemical Kit	Theory related Identification of different types of Bacteria through Biochemical Kit	Hands on Identification of different types of Bacteria through Biochemical Kit	Enabling trainee to learn different types of Bacteria through Biochemical Kit
	Food and Industrial Microbiology	Isolation and Identification of bacteria and fungi used in Food and Dairy Industries	Isolation and Identification of bacteria and fungi used in Food and Dairy Industries	Enable trainee to learn Identification of bacteria and fungi used in Food and Dairy Industries
	Environmental Microbiology	Isolation and identification of Heavy Metal Resistance Bacteria	Isolation and identification of Heavy Metal Resistance Bacteria	Enable trainee to learn Isolation and identification of Heavy Metal Resistance Bacteria
	Medical Microbiology	Theory related to Multiple Drug Resistance	Hands On Multiple Drug Resistance	Enable trainee to learn Hands On Multiple Drug Resistance
	Bacterial Genomic DNA Isolation	Theory related to Bacterial Genomic DNA Isolation	Hands on Bacterial Genomic DNA Isolation	Enable trainee to learn Bacterial Genomic DNA Isolation
	Bacterial Plasmid Isolation	Theory Related to Bacterial Plasmid Isolation	Hand On Bacterial Plasmid Isolation	Enable trainee to learn Bacterial Plasmid Isolation
		SUNDAY		
	Competency based evaluation, Doubt clearance class & Certificate distribution			

Name of the Course: **Certificate Program in Microbial Research (CPMR)**

Duration of the course: **15 Days**

Mode of the course: **Theory and Practical (Hands-On)**

Eligibility: **Bachelors / Masters (In any branch of Science / Allied Streams)**

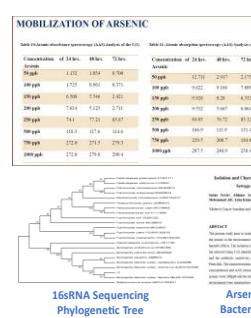
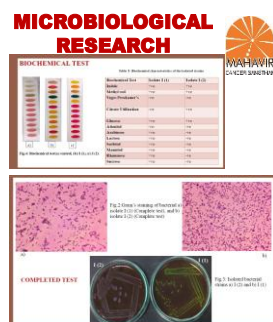
Course Fees: **Rs. 6,000/-**

Batch Size: **10 Students per batch**

Programme In-charge: **Dr. Sneha Navin, Scientist-I & In-Charge Microbiology Laboratory, Research Centre, MCSRC, Patna**

Documentation & Deliverables: **Training manual (SOP-based), Certificate issued with institutional seal**

Quality Assurance (Institutional Level): **Standardized SOPs for all steps**



Person Involved

S.No.	Name	Designation	Contact Information
1.	Dr. Sneha Navin	Scientist-I	9386726212 Snehanavin9@gmail.com
2.	Dr. Abhinav	Scientist-I	
3.	Prashant Kumar	Lab Technician	
4.	Ashwini Singh	Ph.D. Student	
5.	Sara Iqbal	Ph.D. Student	