

BASICS OF BACTERIOPHAGE BIOLOGY & CLINICAL APPLICATIONS TO COMBAT THE EMERGING ANTIMICROBIAL RESISTANCE: A HANDS-ON TRAINING

Date of Workshop: 3-7 October, 2023



Organized by

Department of Microbiology
IMS BHU-Varanasi-221005-U.P-INDIA



Organizing Team

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Contact Details & Venue

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Banaras Hindu University

The great visionary Bharat Ratna Mahamana Pandit Madan Mohan Malaviya founded BHU in 1916 at the bank of the holy River Ganges. This institution of international recognition epitomizes a synthesis of ancient wisdom and modern scientific temper. BHU is among the world's largest residential universities, comprising 6 institutes, 16 faculties, 140 departments, many centers of advanced studies, 05 interdisciplinary schools and rapidly growing south campus of the university located at Barkachha, Mirzapur.

Institute of Medical Sciences

The Institute of Medical Sciences (IMS-BHU) is one of the six institutes of Banaras Hindu University in Varanasi, India and comprises three faculties, Faculty of Medicine, Dental Sciences, and Ayurveda.

The Institute started functioning as College of Medical Sciences in 1960 with nine departments of Modern Medicine and eight departments of Ayurveda, under the leadership of Dr. K. N. Udupa, the Founder Director of the institute.

In 1971, the College of Medical Sciences was upgraded to Institute of Medical Sciences. Today it has 33 departments of Modern Medicine including 10 Departments of Super-specialties, nine Departments of dentistry, eleven Departments of Ayurveda and a school of Nursing.

Climate & Clothing

The weather in Varanasi in October will be very hot. The average temperatures are between 23°C and 33°C, drinking water regularly is advisable.

You can expect about rain in Varanasi during the 3, 4 & 7th October. It's a good idea to bring along your umbrella so that you don't get caught in poor weather.

Access to Varanasi

Varanasi is well connected to the rest of the country by air & train. Lal Bahadur Shastri International Airport is approximately 35 Km from Banaras Hindu University. The main railway stations to reach Varanasi are Varanasi Cantt (BSB) and Banaras (BSBS) which are approximately 8 and 3 km respectively from BHU



Registration form

(Screening)

Name: _____

Designation: _____

(Student/ Ph.D. Scholar/Other)

College/University/Institute: _____

Sex(M/F): _____

Address for Correspondence: _____

Mobile: _____

Email: _____

Name of Supervisor(s): _____

Area of specialization: _____

Briefly describe how learning the techniques through this Workshop will help you in your career ahead
(100 words max)

“BASICS OF BACTERIOPHAGE BIOLOGY & CLINICAL APPLICATIONS TO COMBAT THE EMERGING ANTIMICROBIAL RESISTANCE: A HANDS-ON TRAINING

Purpose of Workshop

Phage therapy uses bacteriophages to combat bacterial infections. After a brief success a century ago, this antibacterial therapy is now seeing a renaissance after being abandoned (almost) as a substitute for the triumphant chemical antibiotic "warfare," which now appears to have reached an impasse. Therefore Bacteriophages have drawn greater attention in recent years because of their tremendous therapeutic potential against multidrug-resistant bacteria. The intended 5-day Scientific workshop cum hands-on training will train the participants in techniques involved in the isolation, propagation, characterization and purification of phage. The workshop would also provide an opportunity to learn handling and care for experimental animals and design preclinical and clinical trials with insights from pioneer researchers.

Objectives of the Program

- To train the scientists on bacteriophage harvesting techniques and therapy countrywide.
- To impart an understanding of the role of bacteriophages as therapeutics and biocontrol agents.
- In addition, the workshop also intends to acquaint participants with the advanced molecular tools to analyze the phage genome and its manipulation

Programme Impact-Expected Outcome

After this workshop, participants will be able to conduct research independently in bacteriophage therapy, with a greater goal to offer a lasting and more robust solution to humankind in the fight against antibiotic-resistant bacterial infection. This physical, five-day workshop will feature Bacteriophage scientists from clinical, aquaculture, veterinary, agricultural sciences and other scientific arenas.

Hands-on Module-1

Introduction to good laboratory practices and biosafety, basic microbiology techniques, phage titration methods with concepts of CFU & PFU, isolation of bacteriophages from environmental samples, Isolation of phage DNA, characterization of phage by RAPD, ERIC PCR and restriction analysis, purifications of phages, genome analysis of phages using bioinformatics tools and preservation of phages(Lyophilization).

Hands-on Module- 2

Collection of specimens for viral diagnosis, methods for isolation of viral RNA/DNA, detection and quantification of RNA/DNA by different types of PCR, ELISA for viral diagnosis, plasmid isolation, gene deletion, blasting, primer designing and DNA sequencing methods (Sanger Sequencer)

Important Dates

Last Date of Registration: August 20, 2023

Intimation of shortlisted candidates: August25,2023

Commencement of workshop:October3-7,2023

Registration

Applicant get registered through following link

<https://bit.ly/phage-ims-bhu>

Registration Fee:500/-



Application Procedure

To apply for the workshop, applicant must fill out the attached application form and get it approved from their guide/HOD/Competent authority.

Eligibility

Faculties, Postgraduate students (MD/MS/MDS/M.Sc.), Research Scholars, and Scientists (Limited to 25 participants only on a first-come, first-served basis)Strictly one from one Institute and workshop will be conducted in physical mode.

Travel and Accommodation

Selected candidates will bear their travel expenditure.

Food and accommodation will be provided by the organizer on request The Charges for food and accommodation will be1000/-per day.

