

RESPHARM RESEARCH

ResPHARM is a collaborative, international, interdisciplinary project that is bringing together scientists and academic experts from India and the UK. The ResPHARM team are investigating the fate and studying the impact of pharmaceutical wastes on the environment and local community of pharmaceutical manufacturing hubs in Baddi and Kangra. ResPHARM is testing, in real time, the impact of pollution on humans and the resistance status of bacteria. This research will support the identification of best strategies to mitigate the environmental impacts of pollution, without making production economically non-viable.



RESPHARM TEAM

OVERALL AIM

ResPHARM aims to track the fate of antimicrobial active pharmaceutical ingredients (APIs) and antibacterial agents (ABAs) from source to the major river. It also aims to evaluate the direct contribution to the levels of antimicrobial resistant bacteria (ARB) and antimicrobial resistant genes (ARGs) in the environment and within the human faecal resistome.

OBJECTIVES

- Identify and quantify antimicrobial APIs and ABAs in aquatic environments in Baddi and Kangra
- Evaluate the impact of ABA, API exposure on antimicrobial resistant bacteria (ARB) and antimicrobial resistant genes (ARGs) levels
- Document human exposure to environmental pollutants in waste streams and rivers
- Determine the impact of local levels of environmental ABAs and antimicrobial APIs on human faecal resistome and prevalence of resistant *E. coli* isolates
- Investigate key drivers of ARG
- Develop recommendations for environmental monitoring guidelines to inform a risk assessment protocols

PARTICIPATING INSTITUTIONS

1. PGIMER, Chandigarh, India
2. AMU, India
3. BHU, Varanasi, India
4. IIT-D, Delhi, India
5. CSIR NEERI, India
6. University of Warwick, UK
7. University of Bristol, UK
8. Earlham Institute, UK

RESPHARM EVENT

Project Meeting and Hands-on Workshop on Nanopore Sequencing and Data Analysis

Venue: Post Graduate Institute for Medical Education and Research (PGIMER), Chandigarh, Indi

Date: 25th – 29th April 2022

NERC
SCIENCE OF THE ENVIRONMENT

जैव प्रौद्योगिकी विभाग
Department of Biotechnology
Ministry of Science & Technology
Government of India

TACKLING AMR IN THE ENVIRONMENT INDIA
'RESPHARM'

WELCOME DELEGATES

PROJECT MEETING CUM WORKSHOP 2022

Hands-on workshop on 'Nanopore sequencing and data analysis'

25th – 29th APRIL 2022

KEYNOTE SPEAKERS

Prof. Elizabeth Wellington
University of Warwick, UK

Prof. Helen S Lambert
University of Bristol, UK

Prof. Chris Quince
Earlham Institute, UK

COLLABORATORS

UNIVERSITY OF WARWICK
UNIVERSITY OF BRISTOL
EARLHAM INSTITUTE
CSIR NATIONAL ENVIRONMENTAL
ENGINEERING RESEARCH INSTITUTE
ALIGARH MUSLIM UNIVERSITY
BANARAS HINDU UNIVERSITY
INDIAN INSTITUTE OF TECHNOLOGY
DELHI

VENUE:

INAUGURAL MEET: ADVANCED PEDIATRIC CENTRE AUDITORIUM

WORKSHOP: SEMINAR ROOM, DEPARTMENT OF MEDICAL MICROBIOLOGY, PGIMER

RESPHARM PROJECT MEETING AND WORKSHOP 2022

The two-day hands-on workshop on “nanopore sequencing and data analysis” included discussions on the library preparation for nanopore sequencing, demonstrated the determination of DNA quality using Promega fluorometer, and supported the delivery of trainings to students across PGIMER and partner institutions.

RESPHARM SAMPLING

Baddi and Kangra sampling sites were visited to discuss the sampling strategy for the year 2022. The team interacted with the local community people and gathered social information as well. The social science component of the project was also discussed in detail while the hands-on workshop was being run in parallel.



BADDI, HIMACHAL PRADESH SITE VISIT

ResPHARM research aims to produce robust evidence that current practices are impacting human and environmental health. This will help to support efficient and clean manufacturing, which will limit environmental pollution with pharmaceutical wastes.