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ART PARK
AI & Robotics Technology Park, I-Hub @ IISc



The 3rd hands-on training for capacity building,
Bangalore

“Molecular approaches & diagnostics for pathogens & AMR Surveillance”

A 3-day hands-on training workshop
for epidemiologists, microbiologists,
and health technicians

Raspuri, NCBS-TIFR
GKVK Campus,
Bangalore-560065



March 4-6, 2025
9am-7pm



DAY 1

8 AM – 9:30 AM Breakfast

9:30 AM-10 AM

Registration and workshop materials

10AM-10:10 AM Candidates & organizers' Introductions

Inaugural session and welcome remarks

10:10AM- 10:20AM Dr. Rakesh Mishra, Director, TIGS

10:20 AM -10:50 AM Talk: Mr. Vishwanath S, Founder & Director, Biome Environmental. *'Water surveillance: Insights for community health via One Health approach'*

10:50 AM -11:10AM Dr. Sufia Sadaf, Program Manager, RF-APSI Outreach, NCBS. *'Setting the workshop context: Capacity building-outreach'*

11:10 AM-11:30 AM BREAK Tea/Coffee

Detailed Technical session

11:30 AM-12:00 PM Talk: Dr. Shivranjani C Moharir, Senior Scientist, TIGS. *'Wastewater surveillance for pathogens and AMR'*

12:00 PM- 12:30 PM Talk: Dr. Mansi Malik, Scientist, TIGS
Surveillance of pathogens from clinical samples: A molecular approach

12:30 PM-12:40 PM Addressal_ Prof. LS Shashidhara, Director, NCBS

12:40 PM -1:10 PM: Talk: Dr. Bhaskar Rajakumar/ARTPARK team,
Program Director, Health Initiatives, ARTPARK

Data modeling & dashboard integration for public health surveillance

1:10 PM – 2 PM LUNCH

2:00 PM -2:30 PM: Assemble for bus pickup for STP site visit

2:30-4PM STP site visit, sample collection, pre-processing

4:30PM Back to NCBS campus

4:30 PM-4:40 PM Tea/ Coffee

4:40 PM -6:30 PM Protocol demo and short talks for WWS: TIGS teams

Hands-on experiments: a) Sample processing for precipitation/various methods b) PEG precipitation

6:30PM-6:45 PM Next day's briefing, distribution of batches

7 PM -9PM DINNER

DAY 2

8 AM – 9 AM Breakfast

9 AM-1 PM |Hands-on experiments: for candidates in 4 batches
Parallel experiments: Team WWE surveillance for AMR (led by Dr. Shivranjani's group, TIGS)

Team Clinical surveillance (led by Dr. Mansi Malik's group)

Short Talks and demos: RNA/ Total nucleic acid extraction,
Pathogen detection/AMR

Practical demos followed by hands-on steps

10:30 AM -10:50 AM BREAK Tea/ Coffee

10:50AM 1 PM Setting up PCR/qPCR before lunch

1 PM – 2 PM LUNCH

2PM- 4:30PM Experiments to continue: Batch swapping

4:30 PM – 5 PM BREAK Tea/Coffee

5 PM – 7 PM Data analysis and results interpretation

7 PM – 9 PM DINNER

DAY 3

8 AM – 9 AM Breakfast

9 AM- 1 PM |Hands-on experiments: for candidates in batches

Parallel experiments: Team WWE surveillance for SARS-Cov-2 (led by Dr. Shivranjani's group, TIGS)

9 AM -10AM RNA extraction. Demo and experiments.

10 AM- 10:20 AM: Talk: Dr. Farah Ishtiaq, Principal Scientist, TIGS.
'Insights from Bangalore's wastewater surveillance for pathogens/AMR'

10:20 AM- 11AM Practical and hands-on steps, setting up qPCR

11 AM -11:30 AM BREAK Tea/ Coffee

11:30AM -1 PM Experiments to continue

1 PM – 2 PM LUNCH

2PM – 3:40 PM Data Analysis and result interpretation

2PM – 3:40 PM Talk: Ms. Samruddhi Walaskar, Dr. Mansi's team,
TIGS, *'Bioinformatical analysis for clinical surveillance'*. **4PM-**

4:20PM REAK Tea/Coffee

4:20 PM – 5:30 PM BLiSC labs & facility visit

5:30 PM -7 PM Learning Engagement: Trivia time, quiz, intergroup activities, prize distribution, felicitation and certificate distribution| Led by Dr. Sufia Sadaf

And it's a WRAP!!!

7 PM – 9 PM DINNER

APSi

The **Alliance for Pathogens Surveillance Innovations (APSi)**, is a pan-India consortium of Indian scientific organizations established in July 2021 with support from the **Rockefeller Foundation** aimed at enhancing public health surveillance capabilities in four major cities: Bengaluru (NCBS-TIFR and TIGS), Delhi-NCR (Ashoka University and Institute of Genomics and Integrative Biology; CSIR-IGIB), Hyderabad (Centre for Cellular and Molecular Biology; CSIR-CCMB), and Pune (National Chemical Laboratory; CSIR-NCL and Pune Knowledge Cluster; PKC) along with hospital partners and city municipal organizations. We are leveraging advanced pathogen monitoring tools to strengthen India's ability to monitor and respond to health-related challenges effectively.

The APSI-India consortium is engaged in developing proof-of concept methods for Environmental Surveillance, epidemiological tools for public health surveillance, developing low cost and high efficacy indigenized kits and validating these methods with the industry partners. As a direct applicability of the generated resources, APSI also conducts Outreach activities ranging from workshops for capacity building-training, education and awareness and joint dialogs between scientists, clinicians, government bodies, public health officials and policy makers for long-term impacts.

The APSI team in Bengaluru has been involved in Covid19 Surveillance, partnering with BBMP, BWSSB and Biome Trust to routinely monitor disease-causing pathogens and traits, including antimicrobial resistance (AMR) using innovative tools and technologies for wastewater surveillance and clinical surveillance. The resulting data helps to generate models for disease trends, pathogen traits and predictive models.

With the help and support of the Central and state government bodies, we aim to transfer the knowledge, resources and tools generated so far, to the Public Health authorities for integration in the ongoing programs for Disease surveillance, which would contribute towards informed policies and action plans for routine monitoring, early warning and pre-emptive disease preparedness.

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