

Workshop following the Wastewater and Environmental Surveillance (WES) Meeting in Accra

The wastewater genomic surveillance workshop will be by invitation only on April 16th 2026, the day following the Wastewater & Environmental Surveillance Meeting.

It will have two separate tracks:

Informatics Track:

The Informatics track will combine background theory and key literature with hands-on practical exercises, enabling participants to learn current state-of-the-art bioinformatics methods and acquire the skills needed to apply them independently.

The workshop is organized into three units:

1. Wastewater genomic surveillance foundations. Implementation approaches and their limitations; the relationship between wastewater and clinical sequencing; and interpretation of multi-modal surveillance trends. This unit will compare sequencing strategies including amplicon-based, hybrid-capture, and metagenomic approaches and discuss their relative costs and benefits for public health versus research applications.

2. Wastewater bioinformatics. Core tools for quality control, processing, and genomic analysis. Participants will explore differences between amplicon-based and multi-pathogen workflows through practical, instructor-led examples, and review current guidelines for data standardization and sharing.

3. Wastewater data visualization and ethics. Tools and approaches for communicating wastewater surveillance results for public health impact, with hands-on visualization examples, alongside discussion of the ethical and legal considerations surrounding data dissemination.

The course will be taught in English, with teaching materials available in French, Arabic, Portuguese, Afrikaans, and Spanish. Course instructors will include Joshua Levy (Scripps Research, USA), Keaghan Brown (PHA4GE / University of the Western Cape, South Africa), Dylan Pilz (Scripps Research, USA), Faith Oladipo (Institute for Global Health, Redeemer's University, Nigeria), Nkosenhle Ndlovu (National Institute for Communicable Diseases, South Africa) and Kristian Andersen (Scripps Research, USA).

Costing Track:

Recognizing the value of WES as a critical tool for disease detection and response, the Gates Foundation has invested in proof-of-concept WES programs in Africa and Asia. As part of its work, the Foundation is developing analytical tools that strengthen the understanding of both the costs and benefits of WES systems. More accurate estimates on WES costs and the incremental value they bring will enable better-informed financing decisions and potentially broader uptake of WES as a core component of robust disease surveillance systems

The workshop will support ongoing efforts to refine and harmonize approaches to estimating the costs of WES systems. It will provide a structured forum for technical discussion, peer learning, and validation of emerging insights, grounded in real-world costing data from WES implementation experience across countries. Specifically, the workshop will focus on:

A. Practical application of country data using WES costing tools

- Application of country data through facilitated breakout groups, enabling participants to input data into the costing model to develop preliminary national or sub-national scenarios and indicative cost estimates.
 - Discussion on how costs vary based on diverse factors such as pathogen profiles, local infrastructure, or population density, enabling participants to compare costs across geographies and identify key drivers of variation.
- B. Exchange of information on cost efficiencies and WES scale-up strategies
- Peer-exchange session focused on identifying opportunities to reduce WES system costs, drawing on country experiences with WES system implementation and supply chains, including practical insights on major cost drivers and operational challenges
 - A structured session to explore how WES costing estimates can be used in discussions with funders, including a discussion of the incremental costs and values of WES systems compared to conventional disease detection and surveillance approaches

The workshop will align seamlessly with the conference's sessions on national strategies for WES, decision maker perspectives on WES, and sustainable scaling of WES and contributes to the conference objective of strengthening the application, integration, and innovation of WES as a One Health tool for disease prevention, preparedness, and control.