Laboratoire Génomique Pathogènes | Institut National Recherche Biomédicale

NEWSLETTER

MARCH 2026 *03/2026*

Message from the Head of the Laboratory

"Dear colleagues and partners,

Throughout this month, our teams remained strongly mobilized around scientific, technical, and capacity-building activities, with a particular focus on malaria, through several initiatives aimed at strengthening genomic surveillance and generating data that are useful for public health.

I would like to commend the commitment, rigor, and professionalism of everyone, which continue to advance our mission in service of the population."

Amuri Aziza Adrienne

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Participation in the Advanced Bioinformatics Capacity-Building Training in Addis Ababa

An advanced regional training in bioinformatics was held from March 4 to 14, 2026, organized by the Armauer Hansen Research Institute in Addis Ababa, in collaboration with the Institute of Tropical Medicine (ITM) and the University of Antwerp, with support from the FA5 project.

This training, intended for African researchers with foundational skills in bioinformatics, aimed to strengthen their expertise at an advanced level. Participants were competitively selected from several African countries, including the Democratic Republic of the Congo.

The program covered key steps in bioinformatics analysis (quality control, alignment, variant calling, and annotation), as well as advanced applications in genomics and phylogenetics, including pathogen transmission studies and antimicrobial resistance analysis.

This participation aligns with the strategy of the Pathogen Genomics Laboratory (PGL) to consolidate its expertise in bioinformatics and strengthen its role as a key actor in genomic surveillance in the Democratic Republic of the Congo. It also contributes to the development of an African scientific collaboration network and the emergence of centers of excellence in genomics across the continent.

Strengthening Genomic Surveillance of Antimalarial Drug Resistance in the DRC

The Parasitology Laboratory, in collaboration with the Pathogen Genomics Laboratory (PGL) of INRB, carried out the analysis of *Plasmodium falciparum* samples collected from dried blood spots during the 2023–2024 Demographic and Health Survey in the Democratic Republic of the Congo (DRC).

These samples were subsequently sequenced using the Illumina MiSeq platform within the PGL facilities, which provided the technical and operational framework for all sequencing activities.

These activities are being implemented under the PALUSEQ project, in collaboration with the University of North Carolina, Brown University, the Department of Parasitology and Epidemiology of INRB, and are aimed at strengthening genomic surveillance of antimalarial resistance markers.

The data generated provide key evidence to inform and guide national malaria control strategies, while also reinforcing the technical and analytical capacities of the PGL in genomics and bioinformatics applied to public health.

Regional Capacity Strengthening in Uganda on Molecular Malaria Surveillance

From March 16 to 27, 2026, the Pathogen Genomics Laboratory (PGL) of INRB participated in a regional training on molecular malaria surveillance, held in Kampala, Uganda, and organized by Africa CDC, in collaboration with the Central Public Health Laboratory (CPHL) of Uganda and the African Society for Laboratory Medicine (ASLM).

This training aimed to strengthen regional capacities in applying genomic approaches to the surveillance of Plasmodium falciparum, with a focus on the detection and interpretation of genetic markers associated with antimalarial drug resistance.

Participation in this training enabled the PGL to further strengthen its technical and analytical capacities, while also reinforcing regional scientific collaboration and exchanges among African laboratories.

Scientific Collaboration Mission and Sequencing Activities in South Africa

A scientific mission took place from March 12 to 13, 2026, at the South African Medical Research Council in Cape Town, South Africa.

The purpose of this visit was to strengthen scientific collaboration and conduct sequencing activities an institutional partnership.

Participation in this mission contributed to the strengthening of technical skills and the acquisition of practical experience relevant to the genomic activities carried out by the Pathogen Genomics Laboratory (PGL).

The knowledge and expertise gained will support improvements in sequencing analyses and further strengthen research and genomic surveillance activities.

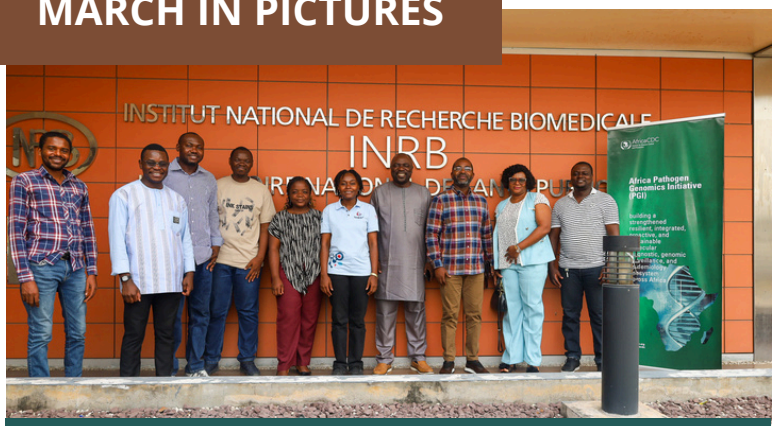
Regional Mentorship Visit to Strengthen Molecular Diagnostics and Genomic Surveillance Capacity in Central Africa

From March 12 to 14, 2026, the Pathogen Genomics Laboratory hosted a regional mentorship visit in Kinshasa, organized with the support of the Africa Centres for Disease Control and Prevention (Africa CDC).

This visit brought together professionals from the National Public Health Laboratories of Cameroon, the Republic of the Congo, and the Democratic Republic of the Congo for technical exchanges on molecular diagnostics, genomic sequencing, sample management, data management systems, and quality systems.

This initiative helped strengthen regional scientific collaboration and build disease surveillance capacity, thereby contributing to improved preparedness and response to health threats in Africa.

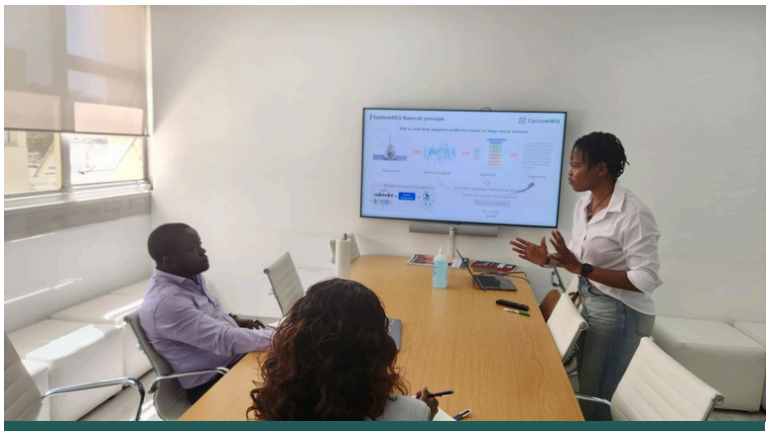
MARCH IN PICTURES



Group photo with teams from Cameroon and the Republic of the Congo during the regional mentorship visit to strengthen capacity in molecular diagnostics and genomic surveillance in Central Africa

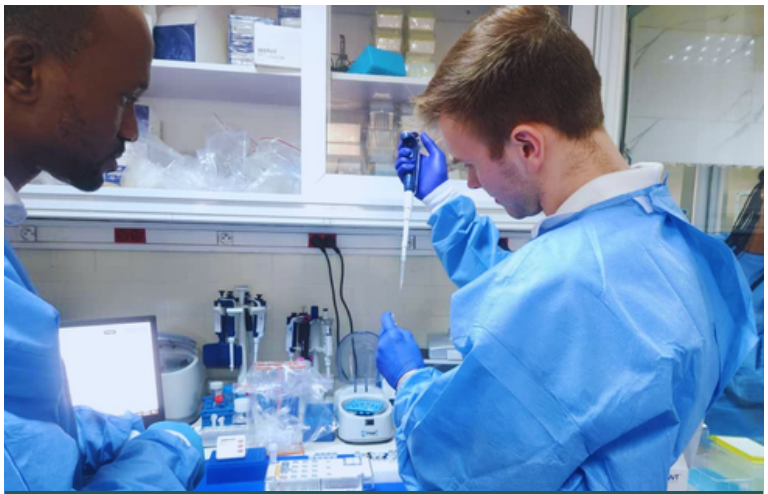
Group photo of participants in the regional training on molecular malaria surveillance in Uganda

Group photo with the Gates Foundation team and the National Public Health Laboratory of the Republic of the Congo at the wastewater sampling site in Kinshasa, as part of the Wastewater project



Working session during the scientific collaboration mission and sequencing activities in South Africa

Preparation of the reaction mixture (master mix) using the Radi Fast kit for Polymerase Chain Reaction (PCR) amplification of Mpox samples as part of the Mbote Epic project



MiSeq sequencing of Plasmodium falciparum samples from dried blood spots collected during the 2023–2024 Demographic and Health Survey in the Democratic Republic of the Congo, with the PALUSEQ team

OUR PARTNERS

PUBLICATIONS : From January 1 to March 28, 2026

1. Detection of Marburg Virus Antibodies 25 Years After Outbreak in Watsa, Democratic Republic of the Congo- (JID mars 2026) https://connect.uclahealth.org/dom/2026/03/16/detection-of-marburg-virus-antibodies-25-years-after-outbreak-in-watsa-democratic-republic-of-the-congo/
2. Ocular manifestations in a cohort of patients with mpox in the Democratic Republic of the Congo 2007–2011 (ASM Journals Feb 2026) https://journals.asm.org/doi/10.1128/asmcr.00171-25
3. Deciphering the etiology of the 2024 outbreak of undiagnosed febrile illness in Panzi, Democratic Republic of the Congo (Nature Féb 2026) https://www.nature.com/articles/s41591-026-04235-7
4. Liver and bladder morbidity in a Schistosoma mansoni and haematobium co-endemic area in the Democratic Republic of Congo (PLOS Feb 2026) https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0013999
5. Maternal and neonatal outcomes after infection with monkeypox virus clade I during pregnancy in DR Congo: a pooled, prospective cohort study. (The Lancet Jan 2026) https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(25)02309-8/fulltext
6. Determinants of long-term SARS-CoV-2 immune responses in asymptomatic-to-moderate COVID-19 patients in sub-Saharan Africa (Springer Nature Jan 2026) https://link.springer.com/article/10.1186/s12916-025-04607-9
7. Mpox Clade IIb Virus Introduction into Kinshasa, Democratic Republic of the Congo, July 2025 (Viruses Jan 2026) https://www.mdpi.com/1999-4915/18/1/87

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