

DEFENSE

Mella Tambo Flore masters malaria microbe research



STRATEGIC PARTNERSHIP

CRID attends FFSC 2025



COLLABORATION SPOTLIGHT

An expert from Florida university inspects ICEMR Malaria study sites



NEWSLETTER



A publication of the Centre for Research in Infectious Diseases, N°017, First quarter, January- March 2025

VISIT

CRID delegation extends support to incarcerated women in Mfou prison



The initiative sought to shed light on the unique struggles faced by women behind bars; a group often marginalized in broader societal conversations. During the visit, the delegation distributed vital supplies to ease the daily hardships of incarceration. The donations included hygiene essentials such as sanitary pads, soap, and towels, alongside food staples like rice and cooking oil to bolster their nutrition. More than a charitable act, the effort underscored a commitment to upholding the dignity and rights of all women, regardless of circumstance, while reinforcing solidarity with vulnerable populations.

Last News on Malaria

22.04.2025. Syngenta, a global leader in agricultural innovation, today announced that its next-generation insecticide Sovrenta® has received pre-qualification by WHO, paving the way for its use in malaria-afflicted countries. [Source : www.syngenta.com](http://www.syngenta.com)



PROJECT IN BRIEF

AVecGen: Launching Africa's Cutting-Edge Vector Genomics Hub



■ **CRID unveils a \$5.56M genomic revolution to combat malaria vectors. This Gates Foundation-funded hub will equip African scientists with next-generation tools to outsmart resistant mosquitoes.**

The African Centre for Vector Genomics (AVecGen) represents a transformative leap in malaria research, with six game-changing aims consisting: building advanced bioinformatics infrastructure, creating a high-capacity sequencing platform, establishing functional genomics validation systems, developing comprehensive training programs, executing critical research on insecticide resistance, and Bridging research with real-world vector control applications.

From October 2024 to September 2027, this landmark initiative – with the additional support of the LSTM and the MalariaGEN consortium will position CRID as the First advanced genomic research centre in central Africa. More than just technology, AVecGen represents an unprecedented investment in African scientific leadership, enabling researchers to pioneer solutions to pressing challenges like invasive species, and intervention effectiveness, accelerating infectious diseases' elimination across the continent. [Read more on page 2](#)

CAPACITY-BUILDING

CRID hosts a program on grant management in research

■ From January 20 to 24, 2025, CRID held an intensive training program, on the Principles of Management Excellence for Research (PRIMER), aimed at strengthening grant administration skills in the scientific community.



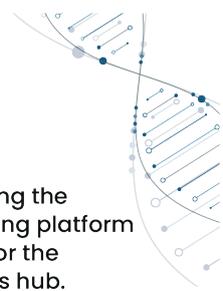
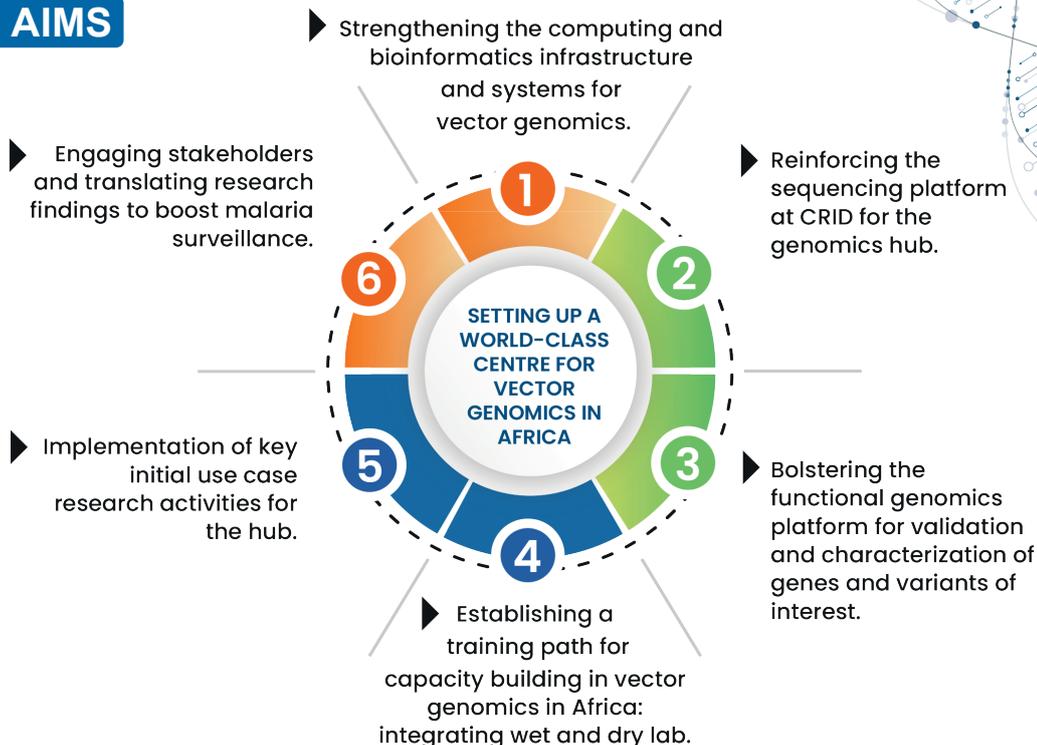
The event started with an opening ceremony attended by representatives from the Bill & Melinda Gates Foundation. Led by Stephen Anyjukire, Senior Manager of grants and contracts at Makerere University's Infectious Diseases Institute (IDI), and Dr. Tom Kakaire, IDI's Head of Strategic Planning and Development, the workshop equipped 19 African researchers with critical knowledge. Key sessions covered grant management fundamentals, strategies for securing funding, and sustainable planning in the pre-award phase. The successful conclusion of the PRIMER training signals a promising partnership between CRID, ACEME Africa, and IDI Makerere, one poised to enhance research capacity across the continent.

OUR STATISTICS





▶ AVecGEN AIMS



▶ AVecGEN EQUIPMENT

▶ The Sanger sequencing platform using the ABI3500xL.



This powerful tool enhances CRID capabilities in genomic research. Equipped with 24-capillary arrays, this state-of-the-art sequencing platform, is an advanced technology that supports high-throughput Sanger sequencing and fragment analysis, ensuring precise results. This sequencing platform will boost CRID's potential in in Vitro Diagnostics applications, HLA typing, microsatellite analysis and SNP validation.

▶ Novaseq 6000

The NovaSeq 6000 System provides access to a powerful, high throughput genomics solution that empowers users to perform studies at the throughput and price per sample that meets their research objectives.



Applications:

- Large Whole-Genome Sequencing (Insects, human, plant, animal)
- Small Whole-Genome Sequencing (microbe, virus)
- Exome Sequencing
- Targeted Gene Sequencing (amplicon, gene panel)
- RNA sequencing
- Methylation sequencing
- Shotgun Metagenomics

▶ Long-read sequencing platform using MinION



CRID is also equipped with a long-read sequencing platform using MinION that offers the possibility to detect structural variant, alternative splicing and methylation processes occurring in variety of sample set from different origins (insects, human, virus, plant, animal, bacteria) that are related to different traits or phenotypes.

EMPLOYEES MILESTONE

→ ARRIVALS



- Ivan Malcolm Ntoke:** Master Student
- Bessala Cédric Gabriel:** Phd Student
- Nlombo Ndema Grace:** Student
- Agoum Ngang**
- Grace:** Student
- Lontsi Londo Jemima:** Student
- Amine Mahamat :** Phd Student
- Emmanuel Doh Nji:** Researcher
- Prof Bougnom**
- Blaise Pascal:** Senior Research Scientist
- Azongkoh Atengwe Olivier :** Personnel Manager
- Djiemo Richelle Ornella :** Technician

DEPARTURES →

- Nkodo Ndjebakal Armelle Carine**
- Ntadoun Stevia**
- Noumbouwo Ndifo Leslly Blanche**



SCIENTIFICS PUBLICATIONS

Carlos S Djoko Tagne, Mersimine F M Kouamo, Magellan Tchouakui, Abdullahi Muhammad, Leon J L Mugenzi, Nelly M T Tatchou-Nebangwa, Riccardo F Thiomela, Mahamat Gadji, Murielle J Wondji, Jack Hearn, Mbouobda H Desire, Sulaiman S Ibrahim, Charles S Wondji. *A single mutation G454A in the P450 CYP9K1 drives pyrethroid resistance in the major malaria vector Anopheles funestus reducing bed net efficacy.* Genetics, Volume 229, Issue 1, January 2025. <https://doi.org/10.1093/genetics/iyae181>

Emilie S Ngongang-Yipmo, Magellan Tchouakui, Benjamin D Menze, Riccardo F Tiomela, Derrick Fofie, Vanessa B

Ngannang-Fezeu, Jean L Mugenzi, Flobert Njiokou, Charles S Wondji. *Long-term impact of exposure to Royal Guard, a pyriproxyfen-based bed net, on pyrethroid-resistant malaria vectors from Cameroon using DNA-based metabolic resistance markers.* Pest Management Science, 23 January 2025. <https://doi.org/10.1002/ps.8615>

Natalie Lissenden, John Bradley, Benjamin Menze, Charles Wondji, Constant Edi, Benjamin Koudou, Raphael N'Guessan, Koama Bayili, Abdoulaye Diabaté, Njelemba Mbewe, Basilianna Emidi, Jacklin Moshia, Alphaxard Manjurano, Graham Small, Welbeck Oumboke, Sarah Jane Moore, Derric Nimmo &

Janneke Snetselaar. *Meta-analysis on the entomological effects of differentially treated ITNs in a multi-site experimental hut study in sub-Saharan Africa.* Malar J 24, 34 (2025). <https://doi.org/10.1186/s12936-025-05264-2>

Ngambia Freitas FS, De Vooght L, Njiokou F, Abeele JVD, Bossard G, Tchicaya B, Corrales RM, Ravel S, Geiger A, Berthier-Teyssedre D. *Evaluation of two candidate molecules-TCTP and cecropin-on the establishment of Trypanosoma brucei gambiense into the gut of Glossina palpalis gambiense.* Insect Sci. 2025 Mar 16. <https://onlinelibrary.wiley.com/doi/10.1111/1744-7917.70012>

DEFENSE

Mella Tambo Flore masters malaria microbe research

The jury lauded Mrs. Mella Tambo Ghislaine Flore for her exceptional skill in distilling intricate concepts into clear, compelling arguments, as well as for the depth of her research and the originality of her methodology.



January 10, 2025, stands as a pivotal date in Mrs. Mella Tambo's academic journey. On that Friday, she undertook the rigorous and esteemed task of defending her Master's dissertation in Microbiology at the Faculty of Science of the University of Yaoundé I.

Her research, titled «Analysis of the biodiversity of microsporidia MB and their potential impact on the transmission of Plasmodium

falciparum in Anopheles gambiae collected from different locations in Cameroon» delved into a critical area of study. Under the guidance of Dr. Marcel Sandeu, a researcher at CRID and lecturer at the University of Ngaoundéré, Mrs. Mella Tambo produced a meticulously structured thesis. The Jury awarded her work high praise, particularly noting its coherence and scholarly rigor.

COLLABORATION SPOTLIGHT

An expert from Florida university inspects ICEMR Malaria study sites

During a 3-day visit, Samuel White, a public health specialist from the University of Florida evaluated three Yaoundé medical facilities participating in the ICEMR malaria research initiative.

Samuel White stayed at CRID from February 25th – 27th, 2025. Accompanied by CRID scientists Dr. Elanga Emmanuel and Dr. Glawdys Cheteug, he assessed patient enrollment procedures at Biyem-Assi, and Cité Verte District Hospitals, and Nkol-Eton Catholic Health Centre. The visit enabled critical operational planning, including identification of data collection sites, secure storage solutions for research documents, and testing of digital recording equipment. Researchers analysed historical malaria case records and exchanged on the various protocols with local medical staff.

The tour concluded at CRID's advanced research complex, where



White examined cutting-edge laboratory facilities and observed mosquito colonies in the insectary, a novel experience for the public health professional. This visit reinforced CRID's reputation as a leading research centre for vector-borne diseases while establishing practical frameworks for the collaborative malaria study.

STRATEGIC PARTNERSHIPS

UBA Cameroon's CEO visited CRID to strengthen financial partnership

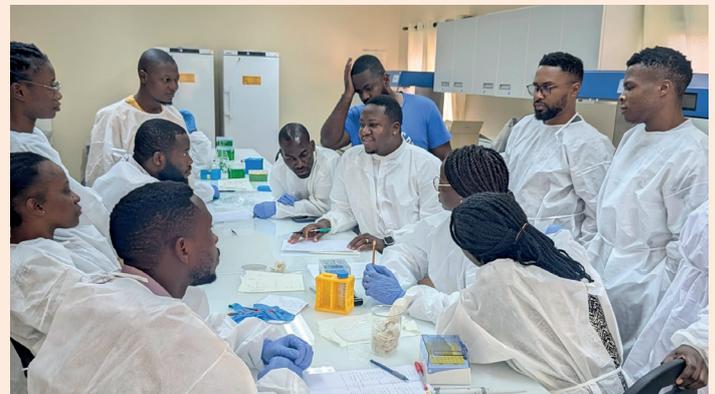
Yaoundé, March 20, 2025. The Centre for Research in Infectious Diseases (CRID) welcomed the United Bank for Africa (UBA) Cameroon's Chief Executive Officer, Jude Anele, for a strategic meeting aimed to enhance financial cooperation.

Jude Anele explored ways to streamline international transactions for the research institution. He was accompanied by the Account Manager Aida Nzupépi and Head of Corporate Services, Patricia Kenmegne Kangaing. During the working visit, CRID Executive Director Prof. Charles Wondji presented the centre's global research initiatives and emphasized the need for efficient cross-border financial operations to support their scientific collaborations. «We require banking solutions that match the pace of international health research», Prof. Wondji explained to the Chief Executive Officer. Mr. Anele responded enthusiastically, committing his team to promptly address all operational concerns: «UBA stands ready to support CRID's important work with tailored financial services», the CEO affirmed. The meeting concluded with an inspection of CRID's Laboratory 3 facilities, leaving both institutions optimistic about their strengthened partnership. The visit marked a significant step in aligning financial services with cutting-edge health research needs in Cameroon.



CRID experts boost Africa's disease control through entomological training

From January 6-17, 2025, CRID conducted an intensive medical entomology training program at Gabon's « Centre de Recherches Médicales de Lambaréné » (CERMEL).



The two-week course, blending theoretical knowledge with practical field applications, formed an essential part of the Master of Science in Infectious Biology and Control degree offered through the Central African Infectious Diseases and Epidemics Research Alliance (CAIDERA), a collaborative initiative with the University of Tübingen in Germany. Prof. Charles Wondji, head of the program and some CRID researchers, delivered lectures on critical topics including fundamentals of medical entomology, vector taxonomy and biology, disease transmission dynamics, vector surveillance techniques, entomological data analysis, xenomonitoring methods, vector control strategies, insecticide resistance detection and

management, the impact of global changes on vector populations, and community engagement approaches for vector control. The training cohort comprised 20 African graduate students participating in CERMEL's biennial program, which aims to build regional expertise in infection biology and enhance public health outcomes across Central Africa. This initiative represents a significant step in developing local capacity to address vector-borne diseases through advanced scientific training and hands-on research experience. The program underscores CRID's commitment to strengthening Africa's research infrastructure and creating sustainable solutions to combat infectious diseases on the continent.

CRID attends FFSC 2025

CRID joined the first-ever Forum of Cameroonian Women Scientists (FFSC) on Saturday 29th March 2025, engaging in critical discussions about gender equality in STEM fields.

The landmark event, themed «Women Scientists, Technological Innovations and Intellectual Property: Drivers for Inclusive Growth and Sustainable Development in Cameroon» brought together the nation's leading female researchers. Dr. Estelle Mewamba, a postdoctoral research fellow at CRID, played a prominent role as panelist during the opening session. Her presentation, «Women, Science, and Innovation: Architects of the Future», highlighted the transformative potential of female leadership in scientific advancement.



FUNCTIONAL GENOMICS WORKSHOP

CRID advances African genomic research with a pioneering training workshop

CRID successfully concluded its intensive functional genomics workshop, equipping African researchers with cutting-edge skills to study disease vectors at the molecular level.

Yaoundé, March 24-28, 2025. The five-day program, part of the African Centre for Vector Genomics (AVecGen) initiative, blended theoretical instruction with hands-on laboratory work. Facilitators Dr Mersimine Kouamo, Carlos Djoko, Vanessa Ngannang, Nelly Tchatchou and Theofelux Tekoh, CRID research assistants, introduced foundational concepts before guiding participants through advanced techniques including polymorphism analysis and Deoxyribonucleic Acid (DNA) sequence interpretation using specialized software like BioEdit and DNAsp.

«These skills transform how we investigate disease resistance in mosquito populations» explained Prof. Charles Wondji, AVecGen's Principal

Investigator (PI), during the closing ceremony. He announced upcoming laboratory upgrades to support local genomic research, emphasizing CRID's commitment to build competitive capacities. Participants demonstrated their new expertise through group projects analysing transgenic *Drosophila melanogaster* models. Their work revealed how specific mutations in the Argininosuccinate Lyase gene for example contribute to insecticide resistance, findings with significant implications for malaria control strategies. The workshop represents CRID's effort to decentralize genomic research capabilities in Africa. Future sessions will expand to include scientists from across the continent, addressing critical gaps in advanced research training.



IWD 2025

CRID marks Women's Day with outdoor celebration and dialogue

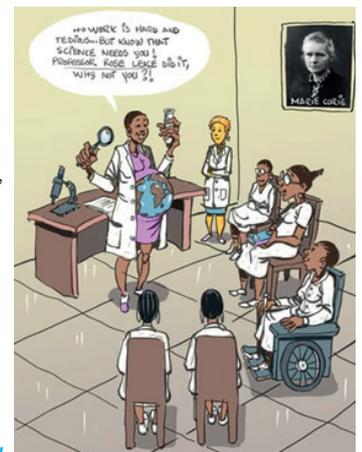
The Centre for Research in Infectious Diseases commemorated the 40th International Women's Day with a dual event promoting wellness and women's empowerment.



Staff members gathered at Mount Febe for a morning hike, combining physical activity with team bonding against the backdrop of Yaoundé's natural beauty. The afternoon transitioned to a communal picnic where colleagues engaged in thoughtful discussions about gender equality while enjoying shared meals and entertainment. The activities served a dual purpose: recognizing professional accomplishments by female researchers while addressing systemic barriers women encounter in scientific careers. This year's observance reinforced CRID's commitment to fostering an inclusive work environment through events that blend recreation with substantive dialogue about workplace equity. The International Women's Day 2025 was celebrated under the theme: "For all women and girls: rights, equality, empowerment."

SPOKEN WORD FOR SCIENCE

For every girl who dares to dream,
For every woman finding her voice
We rise together, a golden stream,
Breaking chains, claiming choice.
For hands that calibrate the stars,
For minds that bend the light,
For those who map what healing are,
In labs that burn through night.
Equal right to probe the unknown,
Equal space to question «why»
No more standing there alone,
Our brilliance scaled the sky.
From CRID's bench to Hubble's eye,
Through data's endless sea
Not just asking «let me try,»
But shouting «here's my theory!»



TTW

Why women empowerment is needed to beat malaria

African women endure malaria's heaviest toll yet possess transformative power. Their empowerment is crucial for effective malaria prevention and sustainable control.

Malaria disproportionately affects African women, with pregnant women facing particularly severe health risks. Physiological changes during pregnancy increase susceptibility to dangerous complications like severe anaemia and foetal loss. Gender disparities frequently limit women's access to life-saving interventions such as insecticide-treated nets and antimalarial medications. Cultural norms in many communities restrict women's autonomy in healthcare decision-making for themselves and their children. Educated women demonstrate significantly higher rates of malaria prevention practices and early treatment-seeking behaviour. Economic empowerment enables women to prioritize health expenditures for their families' malaria protection. Female community health workers serve as critical bridges between health systems and local



populations. Effective malaria programs must address gender-specific barriers through targeted education and outreach. Investments in women's leadership and education generate compounding benefits for malaria control efforts. By advancing gender equality, we strengthen our most powerful asset in the battle against malaria.

Do you know Dr. Mersimine Kouamo?

Resilient, brilliant, unstoppable!

Dr. Mersimine Kouamo is a dedicated cameroonian Biochemist and molecular entomologist whose work is shaping the fight against malaria. Since joining CRID in 2018, she has focused on unravelling the mechanisms of insecticide resistance in *Anopheles* mosquitoes, identifying critical genes like CYP6P9a/b and GSTe2 during her PhD under Prof. Charles Wondji. Her expertise, spanning PCR, RNAi, proteomics, and bioinformatics, fuels her mission to develop smarter vector control strategies. Beyond the lab, she mentors Ph.D students, reviews for top scientific journals, and actively contributes to PAMCA and Women in Malaria.

With over eight high-impact publications (PLoS Genetics, Cell Reports), her research is backed by prestigious grants (Wellcome Trust, Gates Foundation, AVecGen). She is a devoted mother of two. Dr. Kouamo balances science with faith, sharing the Gospel in her community. She enjoys cameroonian dishes like sanga and yam with white sauce, and her personal journey includes mastering delicate mosquito RNAi injections, a technique that once seemed daunting. On facebook she is « Mersimine Mangoua »; on Twitter she is present as @Mersiminefore, she connects with peers, blending warmth with scientific rigor. Her vision? To decode resistance and slash malaria's global toll, one discovery at a time.

