



NEWSLETTER



Engaging the community and general public – WANECAM 2 at World Malaria Day in Bamako – Mali

25th of April 2022 – Bamako, Mali

Malaria is frequently mentioned in symposia, seminars and meetings, is at the centre of our concerns and the international community remains mobilized to combat this disease through research and other initiatives. Still, every minute a child under the age of five dies of malaria in the world. In the face of this reality, challenges to combat the disease remain numerous. Nevertheless, the many initiatives organised worldwide, including the research of the WANECAM 2 consortium, are a source of hope.

On the occasion of World Malaria Day on April 25 2022, WANECAM 2, in partnership with the National Malaria Control Program (NMCP),

AGENDA

- 1 - Engaging the community and the general public
- 2 - Workshop for enhancing the PhD research work of the Malaria Research and Training Center (MRTC)- Parasito, organized by WANECAM 2
- 3 - The Structural Biology Initiation Workshop co-initiated by BIO-STRUCTURE & WANECAM 2
- 4 - Updates from WANECAM 2 research sites
- 5 - Word of thanks

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organized a roundtable discussion with main stakeholders present. These included the Minister of Health and Social Development (Mrs. Dieminatou Sangaré), the WHO Representative in Mali, the Director of the NMCP (Colonel Aichata Koné), civil society actors, representatives of the private sector, academia, and senior managers of research institutions.

This celebration allowed to:

- provide an update on the status of malaria research and control;
- share the WANECAM 2 program and its objectives, presented by Pr. Issaka Sagara;
- Provide advice on how to prevent malaria,
- Demonstrate and explain malaria diagnosis, surveillance, microscopy, RDT and genetics

Participants were interested to take the rapid diagnostic tests for malaria performed by the investigators of the WANECAM 2 study site of Sotuba. Impregnated mosquito nets were distributed at the end of the ceremony. The day was marked by a strong involvement of policy makers and the population for a malaria-free Africa.



Engaging the community and general public – WANECAM 2 at the week of community engagement in Bamako – Mali



Context:

The involvement of young girls at all stages of their lives in Science is a major focus of the WANECAM 2 project, which encourages young girls to study Science in order to promote the female gender. Hence, WANECAM 2 in partnership with the Amazons of the Faculty of Medicine and Odonto-stomatology (FMOS) and the Faculty of Pharmacy (FAPH) of the University of Science, Techniques and Technologies of Bamako (USTTB), organised the week of the female student from 19 to 21 July 2022.

Event overview:

‘The Amazons’ constitute the female group of the University Alliance for the Renewal of FMOS and FAPH. The objective of this event was to encourage young women to become more interested in Science. With this in mind, presentations were given on well-defined themes by researchers of the MRTC-Parasito.



Professor Safiatou Doumbo Niaré gave a presentation on the place of the female student in health sciences and its sustainable development.

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sustainable development. A list of former Amazons active in the field of health in Mali and internationally and their achievements were shared with the students. This presentation allowed the students to get an insight in the work done by these brave ladies and to get an idea of what could awaits them.



In addition, Dr. Dinkorma Touré Ouloguem gave a presentation on women in biomedicine, a field in which she herself is successful in and that led to her integration into the MRTC-Parasito group in 1998. She benefited several international trainings and has a successful scientific career within the group today. There was room for questions and advice and the speakers promised to remain available for the students in case of further questions or mentorship needs.

Workshop for enhancing the PhD research of the Malaria Research and Training Center (MRTC-Parasito), organized by WANECAAM 2



Context

As part of its capacity building activities, WANECAAM 2 initiated a workshop for its PhDs students and extended to all MRTC-Parasito PhDs to review their thesis work. This in order to better formalize their supervision and enhance the quality of human resources trained locally at MRTC-Parasito.

Objectives:

This activity took place from 19 to 20 September 2022 in the bioinformatics training room of DELGEME in the presence of Pr. Abdoulaye Djimdé, Director of MRTC-Parasito and Coordinator of WANECAAM 2, and all the principal investigators of MRTC-Parasito who are also supervising the PhD students.

The main objectives were:

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Presenters were given 15 minutes to present their work and 10 minutes for questions and answers.

The format of the workshop was hybrid: 30 people attended face-to-face, 30 were following the work online (ZOOM) and 21 PhD students made an oral presentation. The workshop closed with words of encouragement and congratulations from the WANECAM 2 Coordinator to the supervisors and PhD students. A follow-up meeting has been set in 6 months for updates on the research work.

The main objectives were:

- to share the progress of the Dissertations with the Scientific Leadership of MRTC-Parasito;
- to make preliminary corrections to their PhD research;
- to provide communication training to improve presentation skills;
- Set-up a local Thesis Committee of 2 supervisors in addition to the Thesis

Director to support the PhD student during the semester

All presentations focused on malaria control strategies, including:

- establishing means to monitor genetic mutations of malaria;
- proposals for the implementation of malaria control tools;
- treatment protocol for uncomplicated malaria.



The Structural Biology Initiation Workshop co-initiated by BIO-STRUCTURE and WANECAM 2

Context :

Most African countries do not conduct research in structural biology due to limited resources, lack of trained people and brain drain of qualified scientists.

Thus WANECAM 2 and BIO-STRUCT organised a training workshop in Structural Biology in the Bioinformatics Room of DELGEME in Bamako, Mali from 25 to 28 April 2022. The opening ceremony was in the presence of the Rector of USTTB, Pr. Ouateni Diallo, the Dean of the Faculty of Medicine and Odontostomatology, Pr. Seydou Doumbia, the Dean of the Faculty of Pharmacy, Pr. Boubacar Traoré and Pr. Abdoulaye Djimdé, Coordinator of WANECAM 2.

Objective:

BioStruct-Africa is a NGO that was established in 2017 with headquarters in Sweden. Its objective is to develop Structural Biology skills on the African continent. This workshop aimed to provide the participants with basic techniques on the theoretical basis of the crystallization

of molecules, and the importance of synchrotron radiation for data acquisition.

The four days of training were marked by a series of presentations and practical work in the laboratories of MRTC-Parasito.

The workshop provided participants with knowledge on how structural biology can be used to find solutions to prevalent diseases in Africa, an overview of drug target selection, protein production and purification, structural determination techniques and analysis in combination with high-throughput, structure-guided and fragment-based drug design.

The organisers were congratulated on this success.

For more information on the workshop please click on this link

[10.1242/bio.059487](https://doi.org/10.1242/bio.059487)



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Research sites updates

Burkina Faso: INSTech

Progress update

The following has been achieved:

- Preparation for the renewal of ethical opinions
- The acquisition of automats in Hematology and Biochemistry
- Submission of the agreement of the data monitoring committee to the ethics committee.
- Training of clinicians in the use of the ECG machine
- Upgrading of microscopists to version 2.0 of the malaria diagnostic manual

Capacity building update

SAKABI sites have been upgraded with laboratory facilities, microscopes, automats, cold room with refrigerators, etc. INSTech has already recruited 1 MSc and 1 PhD student. They are involved as the project staff. The MSc has been trained in field and laboratory work (selection and recruitment of patients, detection of parasites by microscopy, initiation to PCR, initiation to immunological tests, maintenance of mosquitoes and DMFA, etc.). Validation of the master courses has been achieved, and work on setting up the ELISA platform is in progress.

Acquired equipment



Reception area



Cold chain equipment



Microscopes /
parasitology lab



Microbiology lab



Cooled centrifuge



Biochemistry equipment Sakaby

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Burkina Faso: GRAS

Progress update



The main activities carried out have focused on the preparations of the study sites for the next phase of patient recruitment.

These included:

- Submission of amended versions of the protocol for approval by the ethics committee and the regulatory authority in Burkina Faso
- submission to the Technical Committee for the Examination of Clinical Trial Applications (CTEC) of the addition of two sites: Sabou and Banfora.

At the level of the Ethics Committee for Health Research (CERS), we have proceeded to

- the submission of the amendment of the protocol version 01 and the obtaining of its approval (N° 2022 105 of June 8, 2022),
- the renewal of the authorization of the CERS for the continuation of the activities of the study,
- obtaining CETC authorization for the version 1.0 amendment of the protocol subject to the submission of the results of the safety and efficacy data in children aged 2 to <12 years.

For the addition of the two sites, Sabou and Banfora, CETC gave a favorable opinion for the extension of the study on these two sites (N° 2022 0783 of August 09, 2022).

Various training sessions for the study team are underway as well as the acquisition of equipment for the new sites.

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Gabon

Progress update

Regarding the conduct of the clinical trial, the first patient in Gabon was included in the Run-In 2 cohort on February 4, 2022, and as of the 10th of March, 9 patients were randomized and followed-up. Recruitment was halted for one month due to lack of on-site investigational medicine products (IMP). Recruitment resumed on April 28, 2022. A total of 22 participants were included at the Gabon site in the Run-In 2 cohort, and the last follow-up visit for the last patient included in this cohort was on August 19, 2022. Problems encountered during the Run-In 1 cohort were resolved and no protocol deviations were reported during the Run-In 2 cohort.

Capacity building update

In terms of capacity building, slide reading was improved and the results of the second round of slide verification were very good. The site acquired a haematology machine capable of analysing small amounts of blood (50µl) and also providing a reticulocyte count. A biochemistry machine capable of measuring thyroid hormones was also purchased.

Acquired equipment



Microbiology lab



Cooled centrifuge



hematology (Pentra XLR)
and Biochemistry (Mini Vidas) machines

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Mali

Progress update

The last Kalumi PK cohort is complete; and site 1100 has contributed 6 patients. All three sites (1100, 1101 and 1102) in Mali have received new hematology, biochemistry and electrolyte (ionogram) equipment. These machines will be used for the main KALUMI study as well as for KALUMA. All investigators participated remotely in the main Kalumi investigators' meeting via ZOOM.

Acquired equipment



Biochemistry machine



Ionogramme machine



Hematology Machine

Niger

Progress update

The finalization of the new building is in progress. The part reserved for the laboratory is already finished and is functional. The building is composed of :

- a laboratory ;
- two hospitalization rooms;
- consultation rooms, a toilet for the staff;
- a toilet for the participants and a meeting room.

For the second phase of the biological standards study, 520 participants were included from March 15, 2022 to May 19, 2022.

A monitoring of the first phase of the study on standards was done by Pr Karim TRAORE from April 25 to 27, 2022.

Capacity building update

Biology technicians were trained on the preparation, staining and reading of thick and thin smears from 16 to 28 May 2022, by Dr. Dara Jacob from Mali. Two biology technicians received certification training in Mali for one month. A sub-investigator physician received advanced training in clinical trial procedures in Mali.

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A team of three sub-investigators, a biology technician and three nurses were trained on the REDcap platform to learn how to enter data on tablets. Their training has been beneficial and progress has been noted.

The new building and inside of the laboratory



Capacity building update – Roukayatou Omorou – PhD student

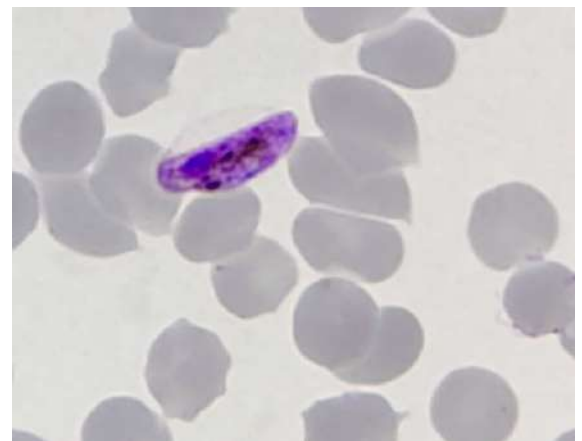
Since 2020, I participate as a PhD student in the WANECAM 2 Work Package 3 on the in vitro and ex vivo phenotypic evaluation of the efficacy of KAF 156 on gametocytes. I am involved in the different steps of the research methodology as well as in the experiments, the implementation of the study protocols and the scientific communication. In addition, I participated in the second annual meeting of WANECAM-2 researchers held in Lambarene-Gabon (March 15 and 16, 2022). I acquired several skills while participating in this project, including:

- Scientific research in general
- The management of scientific projects
- Communication of research work
- Writing and publishing scientific articles

Lyon-France - Malaria Research Unit

Progress update

- Research article submitted: Protocols for the production of Plasmodium gametocytes in vitro: an integrative review and analysis. Authors: Roukayatou Omorou, Ibrahim Bin Sa'id, Michael Delves, Carlo Severini, Yobouet Ines Kouakou, Anne-Lise Bienvenu and Stephane Picot (recognizing Wanecam and EDCTP);
- Standardization of the in vitro production protocol of Plasmodium falciparum gametocytes.
- Establishment of protocols for in vitro and ex vivo phenotypic evaluation of the efficacy of KAF 156 on gametocytes;
- Standardization of the preparation and freezing of blood samples for phenotyping tests;
- Preparation of administrative documents for sample transfer.



Microscopic observation of mature Pf gametocyte from thin smear Giemsa-stained slide

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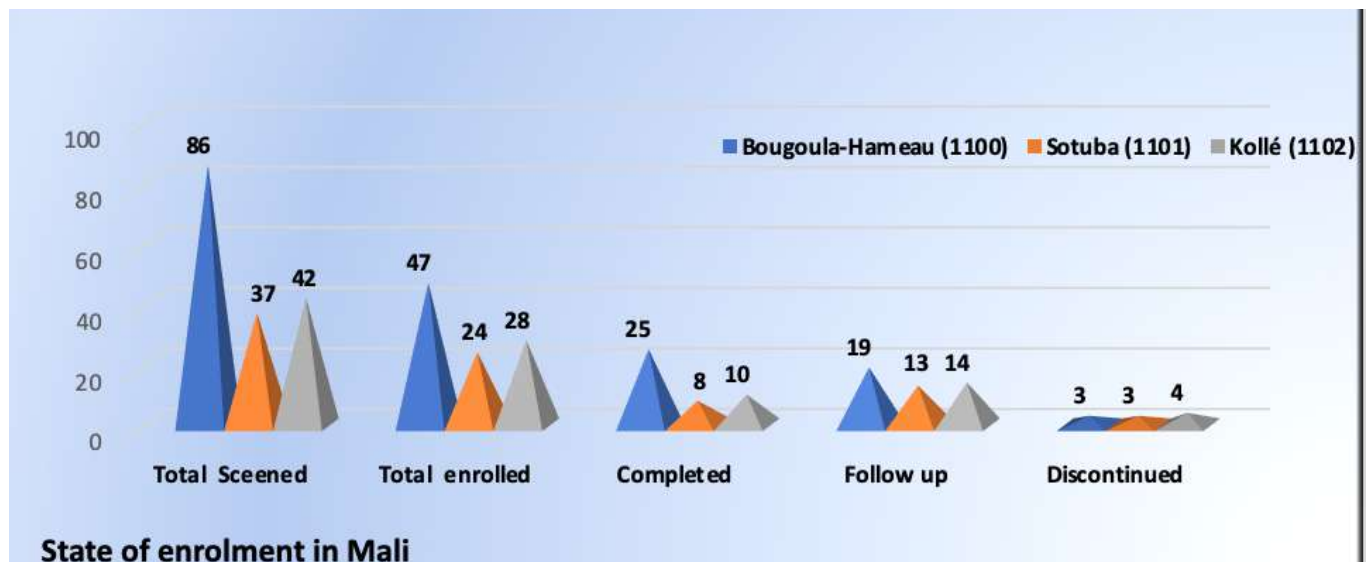
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Novartis

State of KALUMI (KAF156A2203) enrolment in Mali

The KALUMI study is currently evaluating ganaplacide/lumefantrine-SDF given for 3 days in children between the ages of 2 to 12 years in cohort 1. Cohort 2 (children between 6 months and 2 years old) is now open and recruiting. The target is to complete the dosing of 24 patients in cohort 2 prior to the end of the year to confirm the dose in this age group.

The run-in phase of the KALUMI study was successfully completed recently and now the main part of the study has started with Cohort 1. In this cohort 1, patients 2-12yrs are included and treated with KAF156/Lumefantrine-SDF, or control (Coartem®). The sites in Mali have started recruitment of this cohort and included over 50 patients to date (Figure). After a positive interim evaluation of safety and efficacy of the first 24 patients in Cohort 1, Cohort 2 is now opening for patients from 0.5-2yrs.



Press Release

Funding for phase 3 of the WANECAM 2 study of the new combination of Ganaplacide/Lunefrantrine-SDF in adults, adolescence, children and infants with malaria has been granted and work is about to begin in earnest to work towards planned KALUMA study start in July 2023. Be ready!

Please [click on this link for more information](#)

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Word of thanks

We would like to thank all contributors to this second newsletter for sharing updates from of their respective sites where WANECAM 2 clinical studies are being conducted.

We look forward to sharing more news on the progress of the project very soon.

Our strategic partners



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