

Axe: Genetics and genomics of multifactorial diseases  
Axe: Bioinformatics and genomics of molecular networks

## GENETICS AND FUNCTIONAL GENOMICS OF HUMAN MALARIA

MARQUET Sandrine (CRHC, CNRS)



PRADEL Lydie (MCU, AMU)

FARAH Gaëlle (Doctorante, 2023-2027)

ESCANDELL Amélie (Doctorante, 2025-2028)

POUVELLE Bruno (IR, AMU, 30%)

TORRES Magali (IE, Inserm, 30%)

QUATREVILLE Lorena (Doctorante, 2023-2026)

YAYA-OYE AKIBOU Abdel (IE, CDD)

Rihet Pascal (PR Emérite)

BERGON Aurélie (IR, Inserm, 30%)

EXPERIMENTALISTS

BIOINFORMATIENS

### Multidisciplinary team

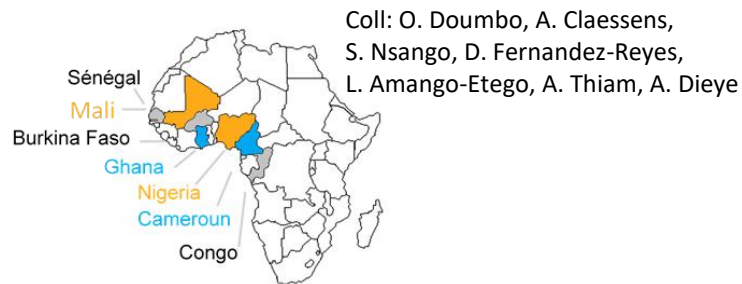
- Genetics and Genomics
- Cellular biology
- Molecular biology
- Parasitic cycle
- Cytometry
- High-throughput sequencing



# Main areas of research and activities

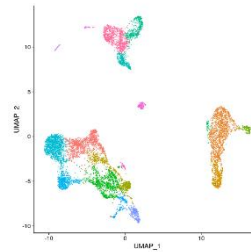
- Identification of genetics variants associated with severe malaria and characterization of underlying pathological mechanism
- Malaria integrative Analysis to decipher the host pathogen interaction and discover biomarkers of infection outcome

## Genetics / Bioinformatics



- Cohort recruitment
- Genotyping
- Association studies
- Linkage disequilibrium analysis
- SNPs prioritization (integrative bioinformatics analysis)

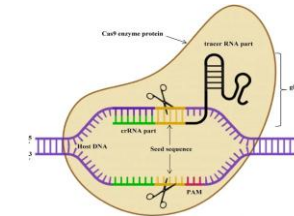
## Genomics / Bioinformatics



### Transcriptomics and Epigenomics

- Bulk RNA-seq
- Single-Cell RNA-Seq (10x Genomics)
- ChiP-Seq
- ChiP-qPCR

## Fonctional Validation



- Gene reporter (luciferase, MPRA)
- CRISPR-Cas9 (KO, KI)
- CRISPR interference
- Cytometry
- Intracellular calcium concentration
- Parasite culture
- Electrophoretic mobility shift assay