The Institute Pasteur in Bangui

It was inaugurated February 25, 1961. Director of the Institute Pasteur in Bangui: Dr. Mirdad Kazanji

CURRENT RESEARCH THEMES:

- Epidemiology and Surveillance of Viral hepatitis type B / delta, C and E
- Hepatitis B and hepatocellular carcinoma
- Molecular epidemiology and surveillance of resistance to anti-retroviral
- Study of Ebola and Marburg reservoir
- Arbovirus Surveillance and Epidemiology
- Viral Zoonosis and interspecies transmission
- Epidemiology and surveillance of rabies and influenza
- Yellow fever surveillance
- Molecular epidemiology of measles virus and rubella
- Genetic Variability of poliovirus (wild and vaccine strains)
- The immunogenicity of polio vaccine in children infected with HIV
- Studies and monitoring of severe diarrhea in children
- Monitoring of mycobacterial drug resistance
- Molecular Epidemiology of meningococcal meningitis in CAR
- Monitoring and resistance to antibiotics .sp Salmonella and *Shigella flexneri*.
- Evolution of drug resistance of *P. falciparum* in CAR

Research

MACOMBA PROJECT (Macomba: Maternity and COntrol of Malaria-hiv co-infection in Bangui) - Dr. Alexandre Manirakiza + Dr Muriel Vray (Coordination) Epidemiology of Emerging Diseases Unit, Institute Pasteur Paris

COMPARATIVE STUDY OF THE EFFECTIVENESS OF TWO PROPHYLACTIC STRATEGIES AGAINST MALARIA BY ANTIFOLATES IN PREGNANT WOMEN INFECTED WITH HIV.

TORCADIA PROJECT EPIDEMIOLOGY OF CHILDHOOD DIARRHEA HOSPITALIZED IN BANGUI

- **Dr Sebastian Breurec** + **Dr Muriel Vray (Coordination)** Epidemiology of Emerging Diseases Unit, Institute Pasteur Paris

1- LABORATORY FOR ARBOVIRUSES, VIRAL HAEMORRHAGIC FEVERS, EMERGING AND ZOONOTIC VIRUSES HEAD: Dr Emmanuel Nakouné-Yandoko, PhD University of Nancy enakouney@gmail.com

- **WHO REFERENCE LABORATORY FOR FEVERS NATIONAL HEMORRHAGIC**
- **NATIONAL REFERENCE CENTRE FOR RABIES**
- **WHO NATIONAL REFERENCE CENTRE FOR RABIES**
- **NATIONAL REFERENCE CENTRE FOR INFLUENZA (NIC / WHO)**

OBJECTIVES:

- Contribute to the **epidemiological** and **entomological** surveillance
- Provide clinical and microbiological **monitoring** by the description of **emerging infectious** diseases
- Characterize circulating viruses to detect new variants
- Describe the transmission cycles of different viruses
- Identify species of **mosquitoes** present in CAR and determine their epidemiological role

2- MEDICAL ENTOMOLOGY SERVICE - Principal investigator**:** Dr Basile Kamgang

CURRENT PROJECTS

- Evaluation of traffic and the risk of **Chikungunya épidémisation** Central African Republic

OBJECTIVES:

- Evaluate seroprevalence CAR CHIKV
- Explore the origin of circulating strains in **phylogenetic** analysis
- Evaluate the geographic distribution, abundance and population of *Aedes* particular
- Identify vectors involved in the transmission of CHIKV in various environments
- Assess vector competence of populations of Ae. Aegypti and Ae. Albopictus vis-à-vis the CHIKV
- Explore the geographic origin of populations of Ae. Albopictus in CAR

The team is interested in biology and genetics of pathogen populations **arthropod vectors** for humans, especially **mosquitoes** responsible for transmitting **malaria** agents, **Yellow Fever**, **Dengue**, **Chikungunya**, the **Fever Rift Valley** and ….

3- LABORATORY OF ENTERIC MEASLES VIRUS - HEAD: Dr. Ionela Gouandjika, Ph.D. University of Paris 7 ionago@hotmail.com

- WHO REGIONAL REFERENCE LABORATORY FOR POLIO
- NATIONAL LABORATORY SURVEILLANCE OF MEASLES
- NATIONAL REFERENCE LABORATORY FOR THE MONITORING OF ROTAVIRUS DIARRHEA
- CELL CULTURE LABORATORY FOR DIFFERENT TYPES OF VIRUS CIRCULATING IN CAR

OBJECTIVES:

- Study the genetic variability and circulation of **poliovirus**, polio enterovirus non, virus **measles** and **rotavirus**
- Monitor enteric viruses

Surveillance:

- Diagnosis of polio under the global polio eradication initiative (WHO Regional Reference Laboratory for Polio in Africa)
- Diagnosis of **measles** and **rubella** in airlock surveillance program no measles. Molecular epidemiology of measles virus and rubella.
- Diagnosis of rotavirus gastroenteritis in the framework of the monitoring sentinnelle GE àrotavirus

Research:

- Identification and molecular epidemiology of enteric viruses (rotavirus, adenovirus, norovirus, sapovirus, astrovirus and aichivirus) as part of the project TORCADIA

4- RETROVIROLOGY UNIT ONCOGENES AND VIRUSES - HEADS: Dr. Mirdad Kazanji Ph.D., Dr. Claudine Bekondi Research Fellow, Ph.D. University of Nancy claudinebekondi@yahoo.fr

OBJECTIVES:

- Define the clinical and epidemiological aspects of virus infections of the **hepatitis B virus** (HBV)
- Etiopathology study of **hepatocellular carcinoma** in Bangui: Clinical, biological and virological aspects of patients
- Perform genotyping and phylogenetic analysis of HBV strains circulating among children in CAR

NEWS OF THE LABORATORY IN 2013

- Evaluation of the **prevalence of viral pathogens** (HBV / D, HCV, HEV, HIV and HTLV-1/2) in blood donors at the National Blood Transfusion Center (CNTS).
- Characterization of novel serum biomarkers of primary liver cancer in Equatorial Africa (Cameroon and Central African Republic). Multicenter study conducted at the Pasteur Institute in Paris, Bangui and Cameroon's Pasteur Center in Yaoundé.

5- HIV RETROVIROLOGY SERVICE - HEADS: Dr. Mirdad Kazanji Ph.D., Sandrine Moussa, Research Assistant, Engineer CNAM sandmoussa@hotmail.com

OBJECTIVES:

- Studying **retroviruses** in general and **HIV** in particular
- Study the **resistance to ART** in adults and pediatric patients under treatment
- Study **co-infection with HIV-1 and CMV** in children under 18 months born to HIV positive mothers
- Evaluate an alternative technique for early HIV testing in children born to HIV +

6- LABORATORY OF VIRAL HEPATITIS - HEAD: Dr. Narcisse Patrice Komas, Doctor of Pharmacy, Cheikh Anta Diop University, Dakar, Senegal. Doctor of Molecular and Cellular Pharmacology, University Louis Pasteur in Strasbourg, France. Pulmonary / Critical Care Medicine-Branch, NHLBI, NIH, Bethesda, United States of America npkomas@yahoo.fr

OBJECTIVES:

- Study the epidemiological aspects of **hepatotropic viruses**
- Study the mechanisms of host-pathogen interactions at the molecular level
- Establish and develop viral hepatitis surveillance system in CAR

7- BACTERIOLOGY SERVICE – HEAD: Dr Sébastien Breurec Biologist Pharmacist Dr Thierry Frank Deputy Head of Department Research Assistant, Ph.D. University of Paris 6. thierryfrank@yahoo.fr

OBJECTIVES:

- Diagnosing bacterial infections
- Monitor bacterial **resistance** to antibiotics
- Monitor bacterial **meningitis**

- Establish genetic characterization of multiple antibiotic resistance in strains of Shigella flexneri isolated in Bangui

RESEARCH TOPICS

- **Epidemiology of childhood diarrhea** hospitalized in Bangui: Case Study / Witnesses
- Surgical site infections in a surgical environment in Bangui
- Diagnosis of **leptospirosis** among febrile syndromes in Bangui
- Study the Central African Republic of a **neglected disease melioidosis**.

RESISTANCE TO ANTIBIOTICS

- **Shigella** and pentarésistance kind of ACSSuTe (ampicillin-chloramphénicolsulfamides- stretomycine-Tetracycline)
- Surgical site infections: Characterization of Enterobacteriaceae resistant to third-generation cephalosporins
- Salmonella and resistance to third-generation cephalosporins and quinolones

8- NATIONAL REFERENCE CENTER FOR MYCOBACTERIA – HEAD: Fanny Minimal-Lingoupou PhD Student University of Paris, Teacher associated with the University of Bangui flingoupou@yahoo.fr

OBJECTIVES:

- Establish the microbiological diagnosis of **tuberculosis** and the Buruli ulcer
- Coordinate the lab network at national level
- Ensuring operational research

9- LABORATORY OF PARASITOLOGY – HEAD: Djibrine Djalle , PhD student in Life Science and Health, Human Pathology University of Marseille, Associate Lecturer at the University of Bangui Dj_djibrineu@yahoo.fr

OBJECTIVES:

- Assess the **level of resistance of** *Plasmodium falciparum* in vitro and molecular biology to antimalarials
- Assess the in vivo efficacy and tolerance of antimalarial ACTs (Artemisinin-based Combination Therapy)
- Assess genetic diversity and structure of Plasmodium populations in CAR and identify their determinants
- Evaluate rapid diagnostic tests (RDTs) for malaria
- Determine the different Plasmodium strains circulating in CAR and their **level of sensitivity** molecular biology

10- EPIDEMIOLOGY SERVICE – HEAD: Dr. Alexandre Manirakiza MD, University of Bangui, PhD University of Marseille amanirak@yahoo.fr

OBJECTIVES:

- Provide methodological support, clinical, epidemiological and biostatistical research laboratories on the development and management of research data
- Participate in public health activities with these different laboratories
- Contribute to training internships students at IPB on methods of biostatistics and epidemiology
- Studying **HIV-coinfection Malaria**, its pathophysiological and therapeutic implications

Public Health

Institute is:

- WHO Collaborating Centre for arboviruses, influenza and hemorrhagic fevers
- WHO Collaborating Centre for HIV / AIDS
- WHO Collaborating Centre for rabies
- WHO Regional Reference Centre for polio
- WHO National Reference Centre for Measles
- National laboratory for mycobacteria Reference
- National rabies treatment center

Trainer center

- Courses for students of the Faculty of Health Sciences (virology, biology, molecular biology)
- Courses for students of the Faculty of Sciences (Pharmacology)
- Training smear
- Training and supervision of health workers
- Training or retraining for Laboratory Technicians Superiors
- Training of specialty physicians Medical Biology of the Faculty of Health Sciences, University of Bangui: DES in Medical Biology (Internet calling)
- Framed memories of Master and PhD
- Centre of Medical Documentation and teleconference