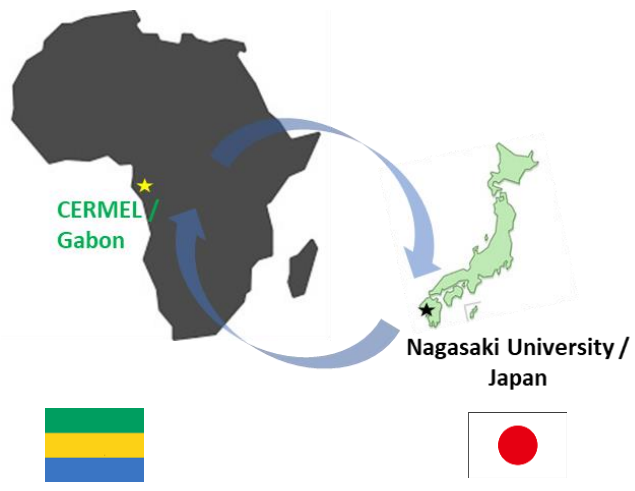
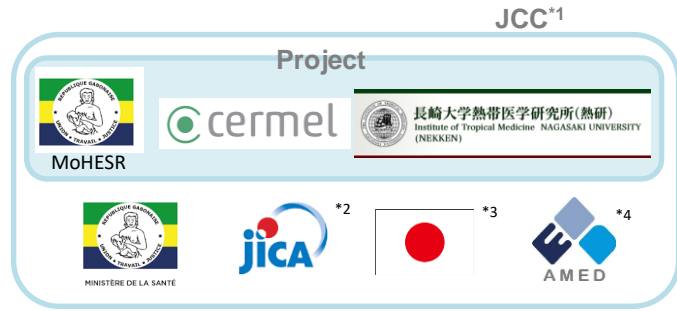


# SYMAV

*The project for establishment of laboratory surveillance system for viral diseases of public health concern*



## Implementation Structure



- \*1: Joint Coordination Committee
- \*2: Japan International Cooperation Agency
- \*3: Embassy of Japan in Gabon
- \*4: AMED: Japan Agency for Medical Research and Development

This project is based on the International Technical Cooperation that is implemented under the “Science and Technology Research Partnership for Sustainable Development (SATREPS)”. SATREPS is supported by the Japan International Cooperation Agency (JICA) and the Japan Agency for Medical Research and Development (AMED).

## Principal investigator

### Japan-side



**Jiro Yasuda**  
Professor  
Institute of Tropical Medicine (NEKKEN), Nagasaki University

### Gabon-side



**Bertrand Lell**  
Co-director  
Centre de Recherches Médicales de Lambaréné (CERMEL)

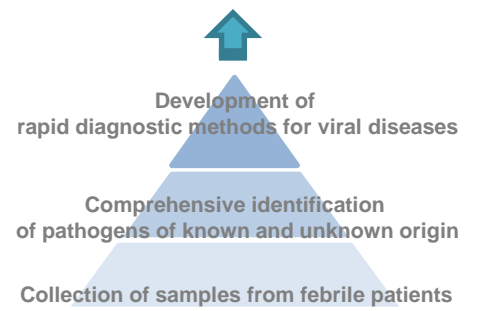
- The Institute of Tropical Medicine, Nagasaki University, is the only institute specific for tropical medicine in Japan and also a WHO Collaborating Centre for Reference and Research on Tropical Viral Diseases.
- The Medical Research Centre of Lambaréné (CERMEL) is a centre of excellence for clinical research in Sub-Saharan Africa, with the main theme of endemic tropical diseases in Gabon, at the forefront of which are malaria, but also, tuberculosis and HIV.

## Focus: Emerging and re-emerging infectious (viral) diseases

Emerging infectious diseases are infectious diseases whose incidences have increased in the past decades and could increase in the future (e.g. Ebola viral disease, Lassa fever). Re-emerging infectious diseases are diseases that once were major health problems globally, and then declined dramatically, but are again becoming health problems for a significant proportion of the population (e.g. Yellow fever, Dengue fever).

## Overview

**Ultimate Goal**  
Establishment of rapid diagnostic system for viral diseases in Gabon



- To develop a library of specimens (blood, urine, throat swab, etc.) in CERMEL, collected from febrile patient.
- To conduct PCR screening for known viruses such as Chikungunya virus, Dengue virus, Rift Valley Fever virus and West Nile virus in the specimens.
- To determine the past and current of resident in the project area to virus of public health concern through serological investigations.

**Installation of BSL-2/3 lab**



A biosafety level (BSL) 2 & 3 Laboratory named: CERMEL / Nagasaki University joint research laboratory was installed on September 2017.



The CERMEL / Nagasaki University joint research laboratory, located at International University Teaching Hospital of Lambaréné (CHUIL), was inaugurated on Friday, November 24, 2017. The positive contribution of this new laboratory for the surveillance and control of viral diseases were presented. A variety of guests were invited, e.g. the ambassador of Japan, representatives from Gabonese ministries (Ministry of Higher Education and Research, Ministry of Health, the governor of Moyen-Ogooué province, and the mayor of Lambaréné), and Gabonese research institutions (CENAREST and CIRMF).

**Research**

**Target viruses**

- RNA viruses of public health concern in the central Africa
  - Dengue virus (serotypes 1-4)
  - Yellow fever virus
  - Zika virus
  - West Nile virus
  - Chikungunya virus
  - Rift Valley fever virus
  - Ebola virus
  - Marburg virus
  - Crimean-Congo hemorrhagic fever virus
  - Lassa virus
  
- Other major diseases
  - Influenza A virus
  - Hepatitis virus (A, B, C, and E)
  - Measles virus
  - Malaria (non-virus)
  
- Unknown viruses to be identified by next generation sequencer



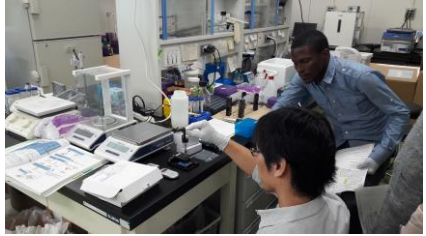
The project offers Japanese researchers the opportunity to gain first-hand research experience in the Gabonese Republic while equipping Gabonese counterparts with new knowledge and technology, in order to increase the effectiveness of future responses to emerging and re-emerging infectious diseases in the target area and beyond.

**Capacity building**

**Training at CERMEL**



**Training in Japan**



Miniseq system:  
Next generation sequencer

On-site training in molecular biology focusing on RNA extraction from clinical specimens and real-time PCR analysis, and serology techniques focusing on own ELISA development has been started at CERMEL. In addition, short-term training on DNA sequencing and next-generation sequencing has been undertaken on October-November 2017.

**Scholarship for PhD (Application deadline for FY2019)**

- MEXT scholarships University Recommendation SATREPS (January 2018)
  - MEXT scholarships Embassy Recommendation (June 2018)
  - JSPS RONPAKU scholarships (July 2018)
  - New scholarships (coming soon)
- MEXT: Japanese Ministry of Education, Culture, Sports, Science and Technology  
JSPS: Japan Society for the Promotion of Science

Capacity building is one of the main parts of this project. We can provide several scholarship programs to the researchers/technicians of the counterpart to acquire Ph.D. or Master degree in Japan.

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