

Dear Manager,

With this letter I hereby would like to state my motivation to participate in the workshop “ Ecological and Epidemiological Modeling in Madagascar, to be held in January 13-20, 2019 at Centre ValBio, Ranomafana National Park, Madagascar

Since 2014, when I was admitted on internship specialization in public health, I was initiated by research and at the beginning by descriptive and cohort studies and control cases. Since 2017, I was working in national malaria control program as support in monitoring and evaluation, and epidemiological surveillance and response. At the beginning of 2018, I was nominated as a division head of epidemiological surveillance of malaria and integrate recently at the committee research officers in the National Malaria Control Program.

The workshop is particularly relevant and respond exactly on my professional area and my expectation to evolution on my cursus. Therefore, I would appreciate to participate in this workshop.

My goal is to know in which field of research we can use modeling. How to take advantage of this concept. In the short term, I would like to finish my memoir on the plague in the Haute Matsiatra region. hence my interest in training, the fact that malaria is a vector-dependent disease, I would like to bring out a model on the coorelation of vector survival and ecological climatic factors. I am part of a working group on climate and health, and our group plans to do some research on meteorological data and some vector-borne diseases such as plague and malaria. In addition, the national malaria program control is in collaboration with the weather service. That's how we can predict where will be area epidemics or upsurge of malaria cases every transmission period. I am also part of the technical committee of the project “ChemObs”, an observatory of chemicals and environment in madagascar. The project aims to have a centralized database on the use of chemicals and their disposal in the environment. Modeling can provide insights into the health risks of chemicals and predict future fate in a few years. In long term, this workshop is an opportunity to expand in the field of research. It is true that currently I am in the field of malaria and especially in epidemiological surveillance and response, but I would like to expand on other areas as my cursus is in preventive medicine and reproductive health. Preventive medicine is a broad branch, but the use of modeling is not yet explored and known.

As a special added value you will have a dynamic person ready to engage in the steps to follow to integrate into the system. I pledge my presence throughout the training. I am at your disposal for any further information and hope to show you my motivation for this training.

Looking forward to a favorable response from you, please accept the expression of my best regards.

Sincerely,

RAHANTAMALALA Mirana

## **A spatial model of distribution of risk for plague at the district of Ambalavao, Haute Matsiatra region.**

Plague is a vector born disease that has always occurred every year in Madagascar. The district of Ambalavao of Haute Matsiatra region has recorded cases for several years. After the epidemic of 2017, a new map on endemic areas was newly created but this map does not reflect the reality and don't predict the epidemiology of the plague. The purpose of the study is to create a special model to predict risk to occur plague, from a given point by interpolation depending on several conditions.

Several conditions influence of fleas and rodents outbreak. The model comes from geographical, ecological and meteorological data. Climate conditions includes temperature, average precipitation, and humidity. The geographical condition includes altitude, accessibility, density of the population. Ecological factor will consider the improved vegetation index. Weather data is available at the weather service level. Epidemiological data are obtained from data of health facilities report.

The coverage area of probability of a site being classified as suitable for plague for Ambalavao is predict, and where intervention and prevention should be improved.

## CURRICULUM VITAE

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Place and date of birth : 4th february 1988 at Ambatolampy / Madagascar

Married, two child

Nationality : Malagasy



## PROFESSIONAL

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- Head of division on epidemiological and response to malaria, within the national malaria control programm.
- Lecturer assistant in reproductive in reproductive health, family health an preventive medicine at the faculty of medicine of Fianarantsoa.

## EDUCATION

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- 2015 : Medical doctorate in Human Medicine at the university of Antanarivo ; Thesis about Use and acceptability of rapid diagnostic test of malaria in the district of Miandrivazo, Tuléar I and Tuléar II.
- Master in health management in the process of being finalised at the national institute of public health Antananarivo.
- Untill 2013 : qualifying internship in public health at faculty of médecine in the university of Antananarivo. In fifth years. Specialisation

## WORK EXPERIENCE

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- supervisor on the epidemiology of malaria in 2017
- July 2018 : Participant in the workshop on the creation of a map modeled on the results of the Malaria indicator survey with DHS program, ICF in Antananarivo.
- with DHS program ICF at Antananarivo

- **April 2018** : Participant in the workshop about the indicator of Malaria indicator survey and Demographic health survey, with DHS program ICF in Dakar Senegal.
- Participant in the development workshop of the mutation transition plan for sentinel surveillance of fevers from the Pasteur Institute to the Ministry of Public Health.
- Participant in the Climate and Health Indicators Development Workshop with the World Bank
- Participant in workshop "vulnerability and risk assesment mapping": a quantitative method to measure risk and disaster in Madagascar.
- 2017: Participant in the elaboration of measure evaluation of the national malaria control program
- August in December 2016: Physician and head of a health center and drugs manager in Ampasimpotsy Tsiroanomandidy.
- Mey 2015: Investigator with Pasteur Institute of Madagascar and DVSSE (Health Surveillance and Epidemiological Surveillance Directorate) about autochthone malaria in Anosizato district and Ambohidratrimo district.
- From November 2013 to December 2013: Survey on the acceptability and use of the rapid malaria diagnostic test, on malnutrition and anemia and supervision of the distribution of long lasting insecticide net in the districts of Tuléar I, Tulear II, Mahabo, Miandrivazo and Morondava.

## PARTICIPATION IN SCIENTIFIC ACTIVITIES

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- member of the health information system working group within the Ministry of Public Health
- member of the climate and health working group
- Organizer of the second day of Malagasy public health, Akademia Malagasy, September 25, 2015.
- Organizer of the first day of Malagasy public health, Akademia Malagasy, May 30, 2014.
- Presence at the 18th day of the Qualifying Internship, Akademia Malagasy, 19 and 20 October 2015.

## LANGUAGE SKILLS

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- Malagasy : native language
- Français : fluent
- Anglais : intermediate

## COMPUTER SKILLS

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- Word : Fluent
- Excel: Fluent
- Stat application : Epi Info (elementary)

HOBBIES : travel, book, history

I declare on my honor that the above information is true and authentic