



AMANET TRAINING WORKSHOP ON MOLECULAR BIOLOGY AND IMMUNOLOGY IN MALARIA VACCINE DEVELOPMENT

CALL FOR APPLICATIONS

Background

Malaria remains a major health concern in most parts of Africa despite various control measures such as prompt and adequate treatment, intermittent presumptive treatment, chemoprophylaxis, and vector control using insecticide treated materials including bednets and source reduction.

The sequencing of *Plasmodium falciparum* genome and recent advances in vaccinology, molecular biology and immunology as well as improvement in funding opportunities in malaria research have made malaria vaccine an attractive option as a potential additional intervention tool. To keep abreast with such advances and prepare African scientists to seize opportunities in the field of malaria vaccinology, AMANET in collaboration with Wits Health Consortium of the University of the Witwatersrand will conduct a training workshop on molecular biology and immunology in the development of malaria vaccines. The workshop aims at forming a forum for African scientists working on malaria to gain new information and knowledge through lectures and discussions from experts in the field as well exchange views and experiences gained from their daily activities.

Objectives

1. To introduce new advances in molecular biology and immunology of malaria vaccines
2. To discuss malaria vaccine research problems in Africa in relations to molecular biology and immunology
3. To introduce South-South collaboration, mentorship and networking among African molecular biologists and immunologists.

Workshop format

The workshop will be conducted in the form of lectures by facilitators as well as through small group discussions and plenary presentations among participants. The topics will cover recent developments in pertinent areas including:

- Malaria immunity and roles of B and T cells
- Immune correlates in malaria vaccine evaluation
- Malaria vaccine development pipeline
- Current malaria vaccine candidates
- Clinical trials for evaluation of candidate malaria vaccines
- Malaria parasite diversity and vaccine development
- Host genetic factors and protection from malaria
- Experiences in setting up molecular biology and immunology laboratories in Africa
- Networking and collaborative research in Africa
- Genetics and mapping of drug and insecticide resistance
- Ethics issues in malaria vaccine trials

Faculty

Michael Theisen – Statens Serum Institute, Denmark

Fred Kironde – Makerere University, Uganda

Søren Jepsen – European Malaria Vaccine Initiative

Francine Ntoumi – Albert Schweitzer Hospital Medical Research Unit, Gabon

Hassan Mshinda – Ifakara Health Research and Development Centre, Tanzania

Daniel Dodoo – Noguchi Memorial Institute of Medical Research, Ghana

Adrian Luty – University of Tübingen, Germany

Theresa Coetzer – University of Witwatersrand

Nicola Shongwe – University of the Witwatersrand

Maureen Coetzee – University of the Witwatersrand

Richard Hunt – University of the Witwatersrand

Wen Kilama – African Malaria Network Trust

Charles S. Mgone – African Malaria Network Trust

Roma Chilengi – African Malaria Network Trust

Programme

Workshop Coordinators: Prof. Charles S. Mgone (African Malaria Network Trust)
Prof. Theresa Coetzer (University of the Witwatersrand)

Venue: Rosebank Hotel, Johannesburg, South Africa

Day 0: Sunday, 31 October 2004

All Day Registration

Day 1: Monday, 1 November 2004

08:30-09:00 Introduction of Participants and Facilitators

09:00-09:30 Opening Session

Welcome address by Prof. Steven Chandiwana, Assistant Dean (Research)
and Director of Postgraduate School, University of the Witwatersrand

Remarks by Prof. Charles S. Mgone, Network Director, African Malaria
Network Trust

Opening Speech by Guest of Honour

Vote of Thanks by a participant

09:30-09:40 Photograph Session

09:40-10:00 BREAK

SESSIONS 1: IMMUNITY IN MALARIA

Chair: Daniel Dodoo

10:00-10:15 Introduction to the course: outline of the structure and goals (*Charles Mgone*)

10:15-11:00 Immunity to malaria: an overview (*Adrian Luty*)

11:00-11:45 B-cell immunity (*Fred Kironde*)

11:45-12:30 T-cell immunity (*Adrian Luty*)

12:30-12:45 Discussion

12:45-14:00 LUNCH

Chair: Fred Kironde

- 14:00-14:45 Malaria immunity in pregnancy (*Adrian Luty*)
14:45-15:30 Host genetic factors: the mechanism of protection from malaria (*Theresa Coetzer*)
15:30-15:45 Discussion

15:45-16:10 BREAK

- 16:10-16:55 Plenary Discussions: Experiences and challenges in managing immunology laboratories in Africa (*Fred Kironde/Daniel Dodoo/Adrian Luty*)
16:55-17:00 Evaluation of workshop performance by participants (*Charles Mgone*)

Day 2: Tuesday, 2 November 2004

SESSION 2: PROPERTIES AND STRATEGIES OF MALARIA VACCINES

Chair: Theresa Coetzer

- 08:30-09:15 Malaria vaccine product profile (*Søren Jepsen*)
09:15-10:00 Malaria vaccine strategies (*Michael Theisen*)
10:00-10:15 Discussion

10:15-10:35 BREAK

Chair: Francine Ntoumi

- 10:35-11:20 Development of candidate malaria vaccines: preclinical to cGMP production (*Søren Jepsen*)
11:20-12:05 Role of Public-Private Partnership in malaria vaccine development (*Charles Mgone*)
12:05-12:20 Discussion

12:20-14:00 LUNCH

Chair: Hassan Mshinda

14:00-14:45 Malaria parasite diversity and development of vaccines (*Francine Ntoumi*)

14:45-15:30 Current state of malaria vaccine candidates (*Søren Jepsen*)

15:30-15:45 Discussion

15:45-16:10 BREAK

16:10-16:55 Plenary Discussion: Experiences and challenges in managing molecular biology laboratories (*Theresa Coetzer/Francine Ntoumi/Hassan Mshinda*)

16:55-17:00 Evaluation of workshop performance by participants (*Charles Mgone*)

Day 3: Wednesday, 3 November 2004

SESSION 3: EVALUATION OF MALARIA VACCINES

Chair: Søren Jepsen

08:30-09:15 Immunological correlates in the evaluation of malaria vaccines (*Michael Theisen*)

09:15-10:00 Guidelines for evaluating candidate malaria vaccines in endemic populations (*Roma Chilengi*)

10:00-10:15 Discussion

10:15-10:35 BREAK

Chair: Adrian Luty

10:35-11:20 Clinical trials for evaluating malaria vaccines (*Roma Chilengi*)

11:20-12:05 Role of the Afro-immunoassay initiative in evaluation of malaria vaccines (*Daniel Dodoo*)

12:05-12:20 Discussion

12:20-13:20 LUNCH

13.20-14.05 Drug development (*Ivan Havlik*)

- 14.05-14.20 Discussion
14.20-14.25 Evaluation of workshop performance by participants (*Charles Mgone*)

14:25-14:45 BREAK

- 14.45-18.00 Visits to Wits molecular biology, pharmacology and entomology laboratories

Day 4: Thursday, 4 November 2004

SESSION 4: LABORATORY MANAGEMENT AND NETWORKING

Chair: Steve Chandiwana

- 08:30-09:15 Good laboratory practice (*Charles Mgone*)
09:15-10:00 Laboratory preparedness for malaria vaccine evaluation (*Hassan Mshinda*)
10.00-10:15 Discussions

10:15-10:35 BREAK

Chair: Roma Chilengi

- 10:35-11:20 Ethical issues in laboratory practice and malaria vaccine trials (*Udo Schuklenk*)
11:20-12.05 Overview of malaria research networks in Africa (*Charles Mgone*)
12:05-12:20 Discussion

12:20-14:00 LUNCH

- 14:00-15:30 Breakaway Group Discussions: Brainstorming on Networking
Group 1: Immunology (Daniel Dodoo/Michael Theisen/Søren Jepsen)
Group 2: Mapping of drug resistance genes (Hassan Mshinda/Fred Kironde/Charles Mgone)
Group 3: Mapping of insecticide resistance (Maureen Coetzee)
Group 4: Human genes and markers of malaria resistance (Adrian Luty/Francine Ntoumi/Theresa Coetzer)

15:30-16:00 BREAK

- 16:00-17:15 Plenary Discussion: Strengthening of research networks in Africa (*Steven Chandiwana/Theresa Coetzer/Francine Ntoumi/Fred Kironde/Hassan Mshinda*)
17:15-17:30 Evaluation of workshop performance by participants (*Charles Mgone*)

Day 5: Friday, 5 November 2004

SESSION 5: ANTIMALARIAL AND INSECTICIDE RESISTANT GENES

Chair: Michael Theisen

- 08:30-09:15 Malaria parasite drug resistance (*Theresa Coetzer*)
09:15-10:00 Mapping of insecticide resistance genes (*Maureen Coetzee*)
10:00-10:15 Discussion

10:15-10:35 BREAK

Chair: Charles Mgone

- 10:35-11:20 Interaction between malaria and HIV/AIDS (*Alan Karstaedt*)
11:20-11:35 Discussion
11:35-11:50 Evaluation of workshop performance by participants (*Charles Mgone*)

11:50-12:30 CLOSING CEREMONY

12:30 LUNCH

Scholarship

Successful applicants will be awarded AMANET scholarships, which will cover economy airfares, tuition course fees, teaching materials, lunches and accommodation during the workshop. A small allowance will be paid to participants for evening meals. Organisers will, however, not be responsible for expenses met during transit or for procuring visas.

Venue

Rosebank Hotel, Johannesburg, Republic of South Africa

Date

1-5 November 2004

Accommodation

Rosebank Hotel
Cnr. Tyrwitt & Sturdee Avenue
Rosebank, Johannesburg, South Africa
Tel: +27 11 447 2700
Fax: +27 11 447 3276
Website: www.rosebankhote.co.za
Email: rosebank@rosebankhotel.co.za

Participants

Applications are invited from malaria researchers in African institutions who are already working in the relevant area of molecular biology and immunology and are of middle or senior rank.

Interested persons should submit a complete application, which must include a brief curriculum vitae of not more than one page, summary of their research work in not more than ten lines justifying how they and their institutions would benefit from the workshop. The application must be accompanied with names and addresses of two referees, including their telephone numbers and email. Applicants should ask their referees to send letters of recommendation directly to the following address:

The Workshop on Molecular Biology and Immunology in Malaria Vaccine Development
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Applications must be received by 30 September 2004.