



**SEAMEO-TROPED Regional Centre for  
Microbiology, Parasitology & Entomology  
and  
Institute for Medical Research, Kuala  
Lumpur Malaysia**



**Institute for Medical Research**

The Institute for Medical Research (IMR) established in 1900, is the research arm of the Ministry of Health, Malaysia. Research programmes of the Institute are aligned with the health research priority areas and health needs of the country. The IMR undertakes research to advance scientific knowledge and understanding as well as to provide evidences for informed decision making and formulation of effective preventive and control programs and activities. Research is also carried out with the purpose of developing enabling technologies or products and identifying new biomarkers for use in the early detection and diagnosis of disease, monitoring of disease progression and targeted therapy. IMR also provides specialised diagnostic services, training in specialised field and consultative and advisory services.

**SEAMEO-TROPED Regional Centre for  
Microbiology, Parasitology & Entomology**

In line with the overall mission of SEAMEO, the role of SEAMEO-TROPED is to promote health and to prevent or control diseases, thus improving the living conditions of people in South and Southeast Asia through relevant programmes and services. Together with two other Regional Centres in the NETWORK hosted by established academic and/or research institutions in the Philippines and Thailand, SEAMEO-TROPED serves to facilitate the strengthening of national and institutional capabilities in research and human resource development through various training and postgraduate degree programmes, linkages, personnel exchanges, scientific forums, technical consultant services, publication and information dissemination. SEAMEO-TROPED Network believes that, healthy and enlightened citizen is the basis of stable nationhood.

**Course:**

**DIPLOMA IN MEDICAL MICROBIOLOGY**

**Duration: 5 months from 06 February to 07 July 2017**

**Rationale:**

As the world proceeds to modernization and globalisation, we are increasingly challenged by emerging and re-emerging diseases. There is a very apparent change in the geographical distribution of disease. Globalisation is certainly impacting on the epidemiology of infectious disease, and on the capacity to effectively prevent, control and treat these diseases. Today, infectious diseases still account for a large proportion of death and disability worldwide and in certain regions remain the most important cause of ill health.

The medical laboratory plays a critical role in recognizing, emerging and re-emerging infectious diseases by establishing a specific etiology for disease syndromes seen by clinicians, and by reporting new or unusual pathogens that such laboratories may encounter. The laboratory may also serve as a key surveillance point for information gathering and dissemination, as is the case with antimicrobial resistance. For the laboratory to have maximum impact, it must be able to perform competently a series of essential steps.

**Objective:**

The course aims to provide knowledge and practical training on pathogens of major significance to public health and to enable participants to apply scientific approach and critical thinking to diagnose, prevent and control infectious diseases. The course will facilitate and strengthen institutional and national capabilities in medical diagnostic laboratory services, research and human resource development. It is also hoped that this course will encourage networking between the various participants' institutions and ours to foster exchange in expertise and collaboration in research projects.

### **Entrance Requirement:**

Applicant must have:

- A sufficiently good command of English
- Basic degree in medical, biological or health sciences
- Working in the field of parasitology and entomology or related areas
- Should be between 26 to 46 years old at the closing date of the application
- Should be certified medically and physically fit to participate in this programme

### **Course Venue**

The course will be held at the SEAMEO-TROPMED Regional Centre for Microbiology, Parasitology & Entomology, Institute for Medical Research (IMR), Kuala Lumpur, Malaysia.

### **Course Modules:**

1. Bacteriology
2. Virology
3. Immunology
4. Mycology
5. Epidemiology
6. Biostatistics
7. Molecular Biology

### **Course Methodology:**

Course methodology consist of Lectures, Demonstration, Hands-on laboratory practical and study visit, Preparation of dissertation, and Final examination – consist of theory and practical assessment.

### **Course Content:**

- **Bacteriology**  
An introduction to medical bacteriology including general properties and nomenclature of bacteria, bacterial diseases and pathogenesis. Systematic study of medically important bacteria with special emphasis on infections

endemic in Asia, and antimicrobial agents. Laboratory diagnosis of bacterial infections and antibiotic susceptibility testing. Introduction to disinfection and sterilization, and Health Care Associated Infections. Public Health Bacteriology and disease control.

- **Virology**

An introduction to medical virology including general properties and nomenclature of viruses, biology of virus replication, viral immunology and pathogenesis, systemic study of medically important viruses with special emphasis on viral infections endemic in Asia, emerging viral diseases antiviral agents and viral vaccines. This module also covers diagnostic virology including collection, transportation and processing of specimens from clinical as well as field settings, biosafety and standard laboratory techniques in virology.

- **Immunology**

An introduction to molecular, cellular and clinical immunology. The lymphoid system, antigens, cell interaction, cellular basis of antibody and cell-mediated immune responses, the diversities in the immune system, immunoglobulins, complements, antigen-antibody reactions, cellular assays, autoimmunity, immune complex diseases, allergy, clinical transplantation and immunodeficiency states.

- **Mycology**

Role of the mycology laboratory in the diagnosis and management of fungal diseases. Histopathological diagnosis of mycosis. A systematic study of yeast and fungi of medical importance and the diseases they cause. Antifungal agents. Pathogenicity and immunity to fungal infections. Serodiagnosis of fungal diseases.

- **Epidemiology**

Definition, scope and uses of epidemiology. Measurement of disease occurrence and sources of data. Epidemiological factors and sequence of disease transmission. Epidemiologic methods. Principles of disease control.

- **Biostatistics**

Introduction to biostatistics. Types and sources of data. Measurement of microbiological data. Descriptive statistics for microbiologist. Inferential statistics. Methods for determining association and correlation.

- **Molecular Biology**

Introduction and principles of molecular biology. Applications of molecular biology in diagnosis and research. Hybridoma technology and applications in diagnosis and research.

**Assessment of candidate:**

There will be continuous assessment of the candidate through the Course.

There will be continuous assessment of the candidate through the Course. At the end of each module, the candidates will be assessed. This contributes to 10% of the total marks. As an essential part of the course, participants are required to carry out a literature review assignment including oral presentation. The written assignment and oral presentation would contribute 5% of final examination marks. There will be a final examination at the end of the course. The examination would consist of theory (40%), practical (40%) and viva voce (5%). The decision of the Board of Studies regarding the examination result is final.

Successful candidates will be awarded the Diploma in Medical Microbiology, while participant who fail to obtain the passing mark but had satisfactorily completed the course will be awarded with a Certificate of Attendance.

**Dress Code of the Course**

The dress code for attending lectures is smart casual. However, short skirts, shorts, sleeveless dress/blouse and slippers are not allowed. For formal occasions (visit to MTCP, presentations and convocation), suit jacket and tie or national costume is required. Candidate must bring own lab coat for the use in practical class.

**Course Fee:**

i) **Diploma Medical Microbiology (DMM)**

Every participant is required to pay a course fee of **RM 15,000.00** per person that should be paid in advance. Course fee should be paid directly to the “**Director Institute for Medical Research**”. Participant may join **individual module** and the fees are listed in the schedule. However, acceptance is subject to availability of seats.

ii) **Modular Courses**

Modular Courses offered during the DMM course. Number of candidates accepted is subject to the availability of seats. The fees and dates are subject to change.

<b>Bil.</b>	<b>Module</b>	<b>Aprox. Duration</b>	<b>Tentative Date</b>	<b>Fee (RM)</b>
1.	Biostatistics & epidemiology	2 weeks	14 – 27 Feb	1,500.00
2.	Immunology in infectious diseases	3 week	28 Feb - 20 Mac	2,000.00
3.	Principles of molecular biology	1 week	21-27 Mac	1,000.00
4.	Bacteriology	6½ weeks	28 Mac – 15 May	4,500.00
5.	Mycology	2 weeks	16-29 May	2,000.00
6.	Virology	3 week	30 May – 20 Jun	2,500.00

**Accommodation:**

The Institute does provide a limited number of hostel rooms (with basic facility and shared bathroom) on a twin-sharing basis. The male and the female rooms are located on a different wing of the Hostel. The cost of the hostel room is RM 100.00 per person, per month. However candidates can look for their own accommodation if they wish to. Food is not provided at the hostel.

The room rate around Kuala Lumpur is about RM250.00 per month. Apartment rental is about RM450.00-800.00 per month depending on the location and facilities available. (approximately RM 3.03 = 1 USD)

**Deadline of Submission:**

All application forms must reach the The Dean, Diploma in Medical Microbiology Course, SEAMEO-TROPED Regional Centre for Microbiology, Parasitology & Entomology, c/o Institute for Medical Research, Kuala Lumpur, 50588, Malaysia not later than 6 weeks before the commencement of the Course (15 December 2016).

**Method of Application:****i) Full DMM Course****a) SEAMEO -TROPED Programme**

Applications must be made using SEAMEO-TROPED fellowship forms obtainable from SEAMEO-TROPED Secretariat, Faculty of Tropical Medicine, Mahidol University, 420/6 Rajvithi Road, Bangkok 10400, Thailand. Applications must be made through the applicant's government to the SEAMEO-TROPED Secretariat in Bangkok. Applications are open to applicants from ASEAN member countries only.

**b) Other sponsors and private candidates**

Applications must be made through a standard application form obtainable from the Director, SEAMEO-TROPED Regional Centre for Microbiology, Parasitology & Entomology, and Institute for Medical Research, Jalan Pahang, 50588 Kuala Lumpur, Malaysia.

**ii) Modular Course**

Applications must be to the Director, SEAMEO-TROPED Regional Centre for Microbiology, Parasitology & Entomology, and Institute for Medical Research, Jalan Pahang, 50588 Kuala Lumpur, Malaysia.

**Further Enquiries:**

For further enquiries, prospective applicants can approach the SEAMEO-TROPED Regional Centre for Microbiology, Parasitology & Entomology (Institute for Medical Research, Kuala Lumpur Malaysia) at the following:

The Director  
Institute for Medical Research,  
Jalan Pahang,  
50588 Kuala Lumpur  
MALAYSIA.

Tel. No: 603 – 2616 2666  
Fax No: 603 – 2693 8306  
Email: [seameo@imr.gov.my](mailto:seameo@imr.gov.my)

The Secretariat  
SEAMEO-TROPED Regional Centre (Malaysia)  
Institute for Medical Research,  
Jalan Pahang,  
50588 Kuala Lumpur  
MALAYSIA.

Tel. No: 603 – 2616 2601  
Fax No: 603 – 2692 0675  
Email: [seameo@imr.gov.my](mailto:seameo@imr.gov.my)

The Dean  
Diploma Medical Microbiology  
Institute for Medical Research,  
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50588 Kuala Lumpur,  
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