**INTROM REPORT 2013 / 2014**

PREPARED BY :

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HEAD OF INTROM,
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APPROVED BY :

DR. ZAKIAH ISMAIL

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## 1. INTRODUCTION

Inter-Islamic Network in Tropical Medicine (INTROM) is one of the eight Inter Islamic Network of COMSTECH (COMTECH is a Ministerial Standing Committee on Scientific and Technological Cooperation established under OIC).

INTROM was set up in 1987 and the Institute for Medical Research (representing the Ministry of Health Malaysia) is the focal point and secretariat for INTROM activities. INTROM member countries include Algeria, Egypt, Iraq, Malaysia, Niger, Pakistan, Senegal, Kingdom of Saudi Arabia and Turkey.

The mission of INTROM is in line with the mission of COMSTECH, that is to strengthen the individual and collective capacity of OIC member states in Science and Technology through mutual cooperation, collaboration and networking resources.

### 1.1 OBJECTIVES OF INTROM:

To promote the exchange of information on tropical medicine among Muslim countries,

To promote and undertake collaborative research projects in tropical medicine and its application for the Muslim world and

To organize, coordinate and collaborate training programs in tropical medicine among member countries and Muslim world.

## 2. MANAGEMENT

### 2.1 THE SECRETARIAT:

In 2010, there have been changes in the office bearers of the INTROM Secretariat, Dr. Shahnaz Murad the Director of IMR was the Executive Director of INTROM, taking over from Dr. Amal Nasir Mustafa. Dr. Amal Nasir Mustafa, is still a member of the secretariat as advisor to the secretariat. Dr Noor Rain Abdullah from the Herbal Medicine Research Centre, IMR was appointed as the Head of INTROM.

In 2014, with the promotion of the Director Dr Shahnaz Murad as the Deputy Director General of Health Malaysia, Dr. Zakiah Ismail the Head of Herbal Medicine Research Centre, IMR was appointed as the Acting Director of IMR in February 2014. She automatically assumed the portfolio of the Executive Director of INTROM.

### 2.2 THE ORGANIZATION OF INTROM IMR:

| | |
|---|---|
| Executive Director of INTROM | Dr. Shahnaz Murad until February 2014<br>Dr. Zakiah Ismail from February 2014 |
| Head of INTROM : | Dr. Noor Rain Abdullah |
| Secretary : | Dr. Nor Asiah Mohamed |
| Treasurer : | Dr. Noor Rain Abdullah |
| Members : | Dr. Zakiah Ismail |
| | Dr Amal Nasir Mustafa |
| | Dr. Nor Aini Abdullah |
| | Dr. Masita Arip |
| | Mr. Zamtira B Seman |
| | Mr. Mohd Zahari |

## 2.3 BUDGET

For INTROM activities and Human Resource Development for the OIC member countries

| Budget application / Year approval | Source of Funding | Amount Funding received 2014 RM/USD | Activities for |
|---|---|---|---|
| 2013 / 2014 | Ministry of Health Malaysia (MOH) | RM 110,000 / USD 34,351.00 | INTROM |
| 2013 / 2014 | Ministry of Foreign Affairs Malaysia (MOFA), under the Malaysian Technical Cooperation Program (MTCP) | RM 153,000.00 / USD 47,843.10 | INTROM |
| 2013/2014 | Ministry of Foreign Affairs Malaysia (MOFA), under the Malaysian Technical Cooperation Program (MTCP) | RM340,000.00 / USD 106,178.00 | Supporting participation of OIC member countries in Diploma In Applied Parasitology and Entomology (DAP&E), a 5 months Post Graduate Diploma Course (collaborative research (part of INTROM objectives) |

## 3. PROGRAMMES

### 3.1 INTROM WORKSHOP IN 2014

| | | |
|---|---|---|
| **Title of Workshop** | **:** | **MTCP INTROM IMR COMSTECH WORKSHOP ON TROPICAL MEDICINE : EPIDEMIOLOGY AND IDENTIFICATION OF DENGUE VECTORS AND DETECTION OF THE VIRUS IN THE VECTORS AND IN HUMAN** |
| Date | : | 8 Syawal 1435 – 22 Syawal 1435<br>4 August 2014 – 18 August 2014 (15 days) |
| Venue | : | Institute for Medical Research, Jalan Pahang, 50588, Kuala Lumpur |
| Organized by | : | Institute for Medical Research |
| Supported by | : | Ministry of Health Malaysia and Malaysian Technical Cooperation Programme (MTCP), Ministry of Foreign Affair |

### 3.1.1 INTRODUCTION

Dengue currently poses an increasing threat to over 2.5 billion people in over 100 tropical and sub-tropical countries around the world. The WHO estimates that there may be 50 million dengue infections worldwide resulting in 22,000 deaths each year. Dengue virus is transmitted to humans by the bite of an infected mosquito. The integration of both higher viremias for human and higher transmission rates for mosquitoes would have significant impact on the epidemiology of dengue diseases. Female *Aedes aegypti* mosquitoes are

the main vector involved in the urban transmission cycle of the dengue virus. Female mosquitoes remain infectious for their entire lives and have the potential to transmit virus during each human feeding. Mosquitoes and larvae may be infected by transovarian transmission and maintain the virus in nature. Spread of the mosquito vector and virus has led to a resurgence of dengue fever epidemics and the emergence of dengue haemorrhagic fever. It's believed the virus is maintained in the larval stage, as this can explain the sudden outbreak of dengue in highly urbanised area where primates (natural reservoir host) are totally absent.

Despite extensive research on vaccine development, there are at present no known methods of controlling dengue except by limiting the mosquito vectors. Virological surveillance, which involves the monitoring of dengue virus infection in humans, has been used as an early warning system to predict outbreaks. This approach however, is less effective since the virus is already circulating in the human population. A more effective approach is to detect the virus in the mosquitoes before it is introduced into the human population. This way, preventive vector control measures can be undertaken immediately to offset an outbreak. Furthermore, surveillance of mosquitoes infected with dengue viruses provides an early warning sign for risk of transmission in an area and the specific predominant circulating serotype in the vector population. Control programs can be prioritized and focused more effectively in specific localities.

Early steps should be taken in order to prevent future outbreaks, especially in tropical areas, where vectors are available. RT-PCR can be useful as an early detection warning system to detect infected mosquitoes in epidemic areas. Further characterization of mosquito in the endemic areas and their vector competence for dengue virus could also provide valuable information regarding the potential emergence of the viruses in human population.

The aim of the workshop is to assist participants from OIC member states the techniques / methodologies of identification of dengue vectors and detection of the virus in the vectors. The epidemiology of the vectors will be elaborated by participants in relation to their respective countries. In this way the participants will be able to understand the epidemiology of vectors in different countries. This will develop capacity building in this area and address the learning need and the requirements of managing control program or setting up laboratory capacity to support this needs.

### 3.1.2 WORKSHOP OBJECTIVES

To disseminate knowledge and create awareness on the different epidemiology of dengue vectors from all over the world (which will be contributed / shared by the participating countries)

To disseminate knowledge and capacity building on the different approaches on the identification of dengue vectors, specimen preservation, processing and shipment from dengue endemic areas to the laboratory for virus isolation and confirmation.

To disseminate knowledge and capacity building on the different approaches / technologies on the detection of dengue virus in the vectors,

To provide forum for participants to exchange knowledge and experiences in the subject. This will be achieved by presentation from each participant on the approached carried out in their respective countries.

To promote collaboration among OIC member countries on identification of dengue vectors and detection of the virus in the vectors.

### 3.1.3 LEARNING OBJECTIVES

At the end of this workshop, the participants were able to:

1. Identify dengue vectors in the field and in the laboratory,
2. Infecting mosquitoes with dengue virus in the laboratory,
3. Isolate and detect dengue virus from mosquitoes using conventional and molecular techniques,
4. Colonize dengue vectors,
5. Diagnosis of Dengue virus using conventional and molecular techniques,
6. Clinical manifestation of Dengue,
7. The molecular techniques that can be used in diagnosis,
8. Bio-safety and bio-security in dealing with infectious agents.

### 3.1.4 PARTICIPATION

We received applications from the following countries: Ghana (1), Sudan (5), Yemen (1), Palestine (2), Suriname (1), Somalia (2), Timor Leste (1), Indonesia (2) and Bangladesh (1). The applications were reviewed by review committee consisted of Puan Sharifah Ezneeda (Director of MTCP), Dr NoorRain Abdullah (Head of INTROM) and Dr Rohani Ahmad (Deputy Head of INTROM). The selection was approved by Dr Zakiah Ismail (Acting Director of IMR).

The successful applicants were from the applicants who are working and or have research in related subject of the workshop including public health officers, field entomologist and officers in disease surveillance and disease control. The successful applicants were from Ghana (1), Sudan (1), Suriname (1), Somalia (2), Yemen (1), Bangladesh (1) and Malaysia (4). However, applicant from Yemen cancelled his participation. There were four participants from Malaysia; sponsored by the Ministry of Health Malaysia. One participant from Philippines was sponsored by SEAMEO TROPMED Network, Bangkok for the SEAMEO Credit Mobility Programme. The list of participants is in APPENDIX 1. There were also observers from IMR attending the workshop in some lectures related to their research field.

### 3.1.5 LECTURERS

The lecturers were experts in their areas of work, from Ministry of Health Malaysia. The list of lecturers was as in APPENDIX 2.

### 3.1.6 AGENDA

The workshop was conducted from 4$^{th}$ August until 18$^{th}$ August 2014 (15 days). The workshop agenda was organised by sessions.

The first session focus on the background (lectures) on related subjects; the Overview of Dengue and Its surveillance. Each of the participants presented their Country Report on Dengue.

The second session focused on the Epidemiology of Dengue: the determinants of disease and the host-agent-environment interactions; and the dynamic of disease transmission.

The third session focused on dengue vectors: the ecology and control of Dengue vectors.

The fourth session focused on the virus: clinical manifestation and diagnosis of Dengue among patients and interpretation of results

The fifth session is hands on practicals and demonstrations on identification of dengue vectors and quality assurance of dengue diagnosis.

The sixth session is demonstrations on molecular techniques used in studying of dengue vectors and detection of virus in the vectors: DNA & RNA extraction and PCR.

The agenda (time table) is as in APPENDIX 3. Pictures taken during the workshop are in APPENDIX 4.

### 3.1.7 DELIBERATION OF THE WORKSHOP

The workshop was conducted well. The participants and the lecturers discussed and deliberated on related subjects and issues with regards to approaches and tools in surveillance of dengue in their respective countries. The participants and lecturers shared information on policies, methodologies and approaches to surveillance and control of dengue. The lectures, laboratory hands-on and demonstration were carried out from 4$^{th}$ August until 18$^{th}$ August 2014. The organiser, represented by Dr Noor Rain, expressed the needs to maintain close communication for mutual cooperation in science and technology among Islamic countries.

## 3.2 POSTGRADUATE DIPLOMA COURSES

The Malaysian Government through its Malaysian Technical Cooperation Programme (MTCP), has sponsored OIC member countries participation in Diploma In Applied Parasitology And Entomology (DAP&E), 2013 and 2014.

| | | |
|---|---|---|
| Title of Courses | : | DIPLOMA IN APPLIED PARASITOLOGY AND ENTOMOLOGY (DAP&E) |
| Date of Courses Conducted | | 15 July to 13 December 2013 |
| Venue | : | Institute for Medical Research, Jalan Pahang, 50588, Kuala Lumpur, Malaysia |
| Organised by | : | Institute for Medical Research, Jalan Pahang, 50588, Kuala Lumpur. |
| Sponsors | : | Malaysian Technical Cooperation Programme (MTCP), Ministry of Foreign Affairs, Malaysia and Ministry of Health Malaysia |

### 3.2.1 DAP&E 2013 (from 15 July to 13 December 2013)

There were fourteen participations from 10 countries, one each from Thailand, Vietnam, Philippines, Vanuatu, Ghana, Mongolia, Jordan, and Fiji, two each from Zimbabwe, Solomon Island, and Malaysia. Six applicants were funded by MTCP and they were from Jordan, Ghana, Mongolia and Zimbabwe, they are as listed in Appendix 5.

During the course, each student conducted a research projects in fulfilment for the Diploma in DAP&E 2014 course. The titles of projects conducted are listed in Appendix 6. All six MTCP students passed the examination and received Diploma of Applied Parasitology and Entomology. Three of them passed with Distinction and they were Ms. Zvifadzo Matsena (Zimbabwe), Mr. Emmanuel Munyaradzi Madzima (Zimbabwe) and Mr. Abass Abdul-Karim (Ghana).

### 3.2.2 DAP&E 2014 (from 14 July to 12 December 2014)

The Course is still continuing and will end on the 12 December 2014. MTCP sponsors 5 participants as listed in Appendix 7. Pictures Appendix 8.

**APPENDIX 1**

**MTCP INTROM IMR WORKSHOP ON TROPICAL MEDICINE: EPIDEMIOLOGY AND IDENTIFICATION OF DENGUE VECTORS AND DETECTION OF THE VIRUS IN THE VECTORS AND IN HUMAN**
**4 – 18 AUGUST 2014**
**INSTITUTE FOR MEDICAL RESEARCH KUALA LUMPUR**
**LIST OF PARTICIPANTS**

| NO | NAME | ADDRESS | POSITION | EDUCATION BACKGROUND | PICTURE |
|---|---|---|---|---|---|
| 1. | ABASS ABDUL-KARIM **(GHANA)** | **Address:** Zonal Public Health Laboratory, Tamale Teaching Hospital, P.O.Box TL 16, Tamale, Northern Region, Ghana **Email:** nanayawkomei@yahoo.com **Tel:** +233244571559 **Passport:** H2421718 | Senior Biomedical Scientist | Post-Graduate Diploma of Applied Parasitology and Entomology (2013)<br><br>MPHIL of Community Health (2010-2013)<br><br>BSc in Microbiology (2005-2008) |  |
| 2. | KHALID BABIKER MOHAMMED AHMED **(SUDAN)** | **Address:** Ministry of Health South Darfour State, Sudan **Email:** shaybo1980@gmail.com **Tel:** +249-0905530792 +249-122632775 (home) **Passport:** C0063294 | Public Health Officer | MSc of Medical Entomology (2012-2014)<br><br>BSc of Public Health (2001-2005) |  |

| | | | | | |
|---|---|---|---|---|---|
| 3. | HAMOOD HEZAM QASEM AL-SHAMERI **(YEMEN)** | **Address:**<br>General Administration for Disease Control & Surveillance,<br>Ministry of Public Health & Population,<br>Sana'a, Republic of Yemen<br>**Email:** hhshaeri@yahoo.com<br>**Tel:** 00967-1-300483<br>**Fax:** 00967-1-252234<br>**Passport:** YEM05367331 | National Coordinator of Dengue Fever | PhD in Haematology & Immunology (2002-2006)<br><br>BSc in General Medical Laboratories (1980-1984) |  |
| 4. | TREYANTI SISMA SOEKHOE **(SURINAME)** | **Address:**<br>Rode Kruislaan No.22, Paramaribo, Suriname<br>**Email:**<br>treyantis@hotmail.com<br>**Tel:** 00597497978<br>0059785074638 (Home)<br>**Fax:** 00597491452<br>**Passport:** R1245575 | Entomologist Assistant | BSc. Biology<br><br>Post-Graduate Diploma of Applied Parasitology and Entomology (2010) |  |
| 5. | DR SAIF ULLAH MUNSHI **(BANGLADESH)** | **Address:**<br>Department of Virology, Block B, Second Floor, Bangabandhu Sheikh Mujib Medical University, Kazi Nazrul Islam Avenue, Sahabag, Dhaka -1000 Bangladesh<br>**Email:** saifmunshi@yahoo.com<br>**Tel:** 8802861709<br>**Passport:** AE0020868 | Associate Professor | PhD. Molecular Biology<br><br>MPhil. Human Virology<br><br>M.B.B.S Medicine |  |

| | | | | | |
|---|---|---|---|---|---|
| 6. | ABDURAHMAN ABDULLAHI IBRAHIM **(SOMALIA)** | **Address:** 2nd Floor, Ex Ministry of Foreign Affairs Office, KM5, Afgoie Road, Mogadishu, Somalia **Email:** sabirsom@gmail.com **Tel:** 252-61-5274091 **Passport:** P00274785 | Deputy of National HIV Program | BSc. Microbiology<br><br>MPhil Medical Microbiology |  |
| 7. | QASSIM ABDI JIM'ALE **(SOMALIA)** | **Address:** 2nd Floor, Ex Ministry of Foreign Affairs Office, KM5, Afgoie Road, Mogadishu, Somalia **Email:** jimaleak@gmail.com **Tel:** 252-61-8333141 **Passport:** P00156139 | Head of Public Health Laboratory | BSc. Biology<br><br>MSc. Public Health |  |
| 8. | NARCISSUS HENRY SUNDIN **(MALAYSIA)** | **Address:** Seksyen Kawalan Penyakit Bawaan Vektor Jabatan Kesihatan Negeri Sarawak Jalan Diplomatik, Off Jalan Bako 93050 Petra Jaya, Kuching Sarawak **Email:** narcissus_sundin@yahoo.com.my | Science Officer (Entomologist) | BSc |  |

| | | | | | |
|---|---|---|---|---|---|
| 9. | Ms. LAU SAI MING<br>**(MALAYSIA)** | **Address:**<br>Makmal Kawalan Penyakit Bawaan Vektor, Blok C, Jalan Langat, 41200 Bandar Botanik, Klang.<br>**Email:** flolausm@yahoo.com.my or lau.sm@moh.gov.my | Science Officer (Entomologist)<br><br>Vector Borne Disease Control Laboratory | BSc |  |
| 10. | MOHD HISYAMUDIN ABD HAPIS<br>(**MALAYSIA**) | **Address:**<br>Pejabat Kesihatan Daerah Seremban, Jalan Lee Sam, 70590 Seremban<br>**Email:** mhisyamudin@moh.gov.my | Science Officer (Entomologist) | BSc |  |
| 11. | FATIMAH BINTI IBRAHIM<br>(**MALAYSIA**) | | Science Officer (Entomologist) | BSc |  |
| 12. | DIANNE MELODY DE ROXAS<br>**(PHILIPPINES)** | **Address:**<br>College of Public Health<br>University of Philippines Manila<br>625 Pedro Gil Street, Ermita, Manila 1000<br>Philippines<br>**Email:** dmderoxas@gmail.com<br>**Tel:** 09353579585<br>**Fax:** -<br>**Passport:** EC1721225 | Student | BS Public Health<br><br>Master of Science in Public Health- Medical Microbiology (ongoing)<br>University of the Philippines-Manila |  |

**APPENDIX 2**

## LIST OF LECTURERS FOR INTROM WORKSHOP ON DENGUE

1. Dr. Zailiza Suli
   Ministry of Health Malaysia
   Aras 12, Blok E7, Kompleks E,
   Pusat Pentadbiran Kerajaan Persekutuan
   62590 Putrajaya
2. Dr. Rose Nani Mudin
   Head of Vector Borne Disease
   Ministry of Health Malaysia
   Aras 12, Blok E7, Kompleks E,
   Pusat Pentadbiran Kerajaan Persekutuan
   62590 Putrajaya
3. Dr. Amal Nasir Mustafa
   Head of Medical Resource Research Centre (MRRC)
   Institute for Medical Research
   50588, Jalan Pahang, Kuala Lumpur
4. Dr. Ahmad Faudzi Yusoff
   Head of Epidemiology Unit
   Medical Resource Research Centre (MRRC)
   Institute for Medical Research
   50588, Jalan Pahang,
   Kuala Lumpur
5. Dr. Zainah Saat
   Head of Virology Unit
   Infectious Disease Research Centre (IDRC)
   Institute for Medical Research
   50588, Jalan Pahang,
   Kuala Lumpur
6. Dr. Ravindran Thayan
   Virology Unit
   Infectious Disease Research Centre (IDRC)
   Institute for Medical Research
   50588, Jalan Pahang, Kuala Lumpur
7. Dr. Lee Han Lim
   Head of Medical Entomology Unit
   Infectious Disease Research Centre (IDRC)
   Institute for Medical Research
   50588, Jalan Pahang,
   Kuala Lumpur
8. Dr. Saiful Safuan Md. Sani
   Pakar Perubatan, Jabatan Perubatan,
   Hospital Kuala Lumpur
   50588, Jalan Pahang,
   Kuala Lumpur
9. Dr. Mohd Khadri Shahar
   Medical Entomology Unit
   Infectious Disease Research Centre (IDRC)
   Institute for Medical Research
   50588, Jalan Pahang,
   Kuala Lumpur
10. Dr. Rohani Ahmad
    Entomology Unit
    Infectious Disease Research Centre (IDRC)
    Institute for Medical Research
    50588, Jalan Pahang,
    Kuala Lumpur
11. Dr. Apandi Yusof
    Virology Unit
    Infectious Disease Research Centre (IDRC)
    Institute for Medical Research
    50588, Jalan Pahang,
    Kuala Lumpur
12. Dr. Soobitha Subenthiran
    Bioassay Unit
    Herbal Medicine Research Centre (HMRC)
    Institute for Medical Research
    50588, Jalan Pahang,
    Kuala Lumpur
13. Dr. Nazni Wasi Ahmad
    Entomology Unit
    Infectious Disease Research Centre (IDRC)
    Institute for Medical Research
    50588, Jalan Pahang, Kuala Lumpur
14. Dr. Noor Rain Abdullah
    Bioassay Unit
    Herbal Medicine Research Centre (HMRC)
    Institute for Medical Research
    50588, Jalan Pahang,
    Kuala Lumpur
15. Dr. Mohd Ridzuan Mohd Abd Razak
    Bioassay Unit
    Herbal Medicine Research Centre (HMRC)
    Institute for Medical Research
    50588, Jalan Pahang, Kuala Lumpur

**APPENDIX 3**

**MTCP INTROM IMR WORKSHOP ON TROPICAL MEDICINE: EPIDEMIOLOGY AND DETECTION OF DENGUE VIRUS IN THE VECTORS AND IN HUMAN**
**INSTITUTE FOR MEDICAL RESEARCH (IMR), KUALA LUMPUR**
**4 - 18 AUGUST 2014 (15 DAYS)**

## TIME TABLE

**4 AUGUST 2014**

| TIME | SUBJECT | LECTURER |
|---|---|---|
| 0800-0830 | Registration | En. Mohd Zahari Bin Tajul Hassan |
| 0900-1030 | Welcome Note Pengarah (Executive Director INTROM) | Dr. Zakiah Ismail |
| 1030-1100 | **TEA BREAK** | |
| 1100-13.00 | Overview of Vector Borne Diseases (Lecture) | Datuk Dr Lokman Hakim Sulaiman |
| 1300-1400 | **LUNCH** | |
| 1400-1500 | The Principles of Dengue Surveillance System in Malaysia (Lecture) | Dr. Rose Nani Mudin |
| 1500-1600 | Dengue Vector Control Programme in Malaysia (Lecture) | Dr. Rose Nani Mudin |
| 1600-1615 | **TEA BREAK** | |
| 1615-1730 | Introduction of students / ICE BREAKING | All lecturers , facilitators and other staff present |

**5 AUGUST 2014**

| TIME | SUBJECT | LECTURER |
|---|---|---|
| 0800-0830 | The Principles of Dengue Transmission (to include Basic Epidemiology) (Lecture) | Dr. Amal Nasir Mustafa |

| | | |
|---|---|---|
| 0900-1030 | Refresh on Biostatistics | Dr. Ahmad Faudzi Yusoff |
| 1030-1100 | **TEA BREAK** | |
| 1100-1200 | Epidemiological Measures I (Lecture) | Dr. Amal Nasir Mustafa / Dr. Ahmad Faudzi Yusoff |
| 1200-1300 | Epidemiological Measures II(Lecture) | Dr. Amal Nasir Mustafa / Dr. Ahmad Faudzi Yusoff |
| 1300-1400 | **LUNCH** | |
| 1400-1500 | Dengue Outbreak Investigation I(Lecture) | Dr. Ahmad Faudzi Yusoff |
| 1500-1600 | Dengue Outbreak Investigation II(Lecture) | Dr. Ahmad Faudzi Yusoff |
| 1600-1615 | **TEA BREAK** | |
| 1615-1730 | Epi Info (Lecture & Hands on) | Dr. Ahmad Faudzi Yusoff<br>Facilitator: Pn. Sumarni Mohd Ghazali, Pn. Nuur Hafizah Md Iderus, En. Zamtira Seman |

**6 AUGUST 2014**

| TIME | SUBJECT | LECTURER |
|---|---|---|
| 0800-0830 | Epi Info (Lecture & Demonstration) | Dr. Ahmad Faudzi Yusoff<br>Facilitator: Pn. Sumarni Mohd Ghazali, Pn. Nuur Hafizah Md Iderus, En. Zamtira Seman |
| 0900-1030 | Epi Info (Lecture & Hands On) | Dr. Ahmad Faudzi Yusoff<br>Facilitator: Pn. Sumarni Mohd Ghazali, Pn. Nuur Hafizah Md Iderus, En. Zamtira Seman |
| 1030-1100 | **TEA BREAK** | |
| 1100-1300 | Simulation on Outbreak Investigation (Hands on and Exercises) | Dr. Ahmad Faudzi Yusoff |
| 1300-1400 | **LUNCH** | |
| 1400-1500 | Country Report (10 minutes per person) | All Participants |
| 1500-1600 | **TEA BREAK** | |

| | | |
|---|---|---|
| 1600-1615 | Country Report (10 minutes per person) | All Participants |
| 1615-1730 | Epi Info (Lecture & Demonstration) | Dr. Ahmad Faudzi Yusoff<br>Facilitator: Pn. Sumarni Mohd Ghazali, Pn. Nuur Hafizah Md Iderus, En. Zamtira Seman |

**7 AUGUST 2014**

| **TIME** | **SUBJECT** | **LECTURER** |
|---|---|---|
| 0800-0830 | Introduction to Dengue Virus (Lecture) | Dr. Zainah Saat |
| 0900-1030 | Current Laboratory Diagnosis of Dengue (Lecture) | Dr Ravindran Thayan |
| 1030-1100 | **TEA BREAK** | |
| 1100-1200 | Dengue Vectors and its Surveillance (Lecture) | Dr Lee Han Lim |
| 1200-1300 | Clinical Manifestation of Dengue Infection (Lecture) | Dr. Saiful (Hospital Kuala Lumpur) |
| 1300-1400 | **LUNCH BREAK** | |
| 1400-2000 | Field trip | |
| | Preparation for Field Work to Collect *Aedes* Mosquito (Briefing at Lab of what to do during field work) | Dr Khadri MH |
| | Field work to collect *Aedes*– Adult Survey/ Larval/Pupal Survey/Ovitraping | Dr Khadri MH, Mr Azahari AH, Mr Mohd Ariffin, Mr Mohd Shakirudin, Mr Hasmizam, Mr Mohd Hanif and Mr Zuhaizam |

**8 AUGUST 2014**

| TIME | SUBJECT | LECTURER |
|---|---|---|
| 0800-0830 | Dengue Infections and Multiplication in Mosquito (Lecture) | Dr Lee Han Lim |
| 0900-1030 | Arthropod Containment and Colonization of *Aedes* (Lecture) | Dr Khadri MH |
| 1030-1100 | **TEA BREAK** | |
| 1100-1200 | Visit to Insectarium | Dr Khadri MH |
| 1200-1300 | **LUNCH BREAK** | |
| 1300-1430 | **FRIDAY PRAYERS** | |
| 1430-1630 | Sorting and Identification of Mosquitoes Collected From Field for PCR and Cell Culture (Practical) | Mr. Azahari AH, Mr Mohd Hanif, Mr. Aidil Azahari |
| 1630-1645 | **TEA BREAK** | |
| 1645-1730 | Sorting and Identification of Mosquitoes Collected From Field for PCR and Cell Culture (Practical) | Mr. Azahari AH, Mr Mohd Hanif, Mr. Aidil Azahari |

**9 AUGUST 2014**

| TIME | SUBJECT | LECTURER |
|---|---|---|
| 9.00 – 2.00 pm | PUTRAJAYA CITY VISIT AND CRUISE TOUR | En. Muhammad Nor Farhan,<br>Ms. Nor Azrina Norahmad, En. Nicholas Gagah,<br>Mr. Siau Azien |

**11 AUGUST 2014**

| TIME | SUBJECT | LECTURER |
|---|---|---|
| 0800-0830 | Introduction to Polymerase Chain Reaction (PCR) (Lecture) | Dr. Ravindran Thayan |
| 0900-1030 | DNA & RNA Extraction: Principle, Qualitative and Quantitative Method (Lecture) | Dr. Ravindran Thayan |
| 1030-1100 | **TEA BREAK** | |
| 1100-1200 | PCR: Primer design and Trouble shooting | Dr. Ravindran Thayan |
| 1200-1300 | Introduction to Real time RT-PCR – Multiplex Assay (Lecture) | Dr. Ravindran Thayan |
| 1300-1400 | **LUNCH BREAK** | |
| 1400-1500 | NS1 – Test Kit for Dengue Virus Detection (DEMO) | Dr. Ravindran Thayan |
| 1500-1600 | Artificial Feeding of Laboratory Mosquitoes with Dengue Virus and Maintenance of Dengue Infected Mosquitoes (DEMO) | Dr. Rohani, Mr. Chandru, Mrs. Wan Najdah and Ms Amizah |
| 1600-1615 | **TEA BREAK** | |
| 1615-1730 | Colonization of Laboratory Infected Mosquitoes | Dr. Rohani, Mr. Chandru, Mrs. Wan Najdah and Ms Amizah |

**12 AUGUST 2014**

| TIME | SUBJECT | LECTURER |
|---|---|---|
| 0800-0830 | Principles of Cell Culture (Lecture) | Dr Apandi Yusof |
| 0900-1030 | View of CPE for viral multiplication (Lecture & Demo) | Dr Apandi Yusof |
| 1030-1100 | **TEA BREAK** | |

| | | |
|---|---|---|
| 1100-1300 | Preparation of Cell Culture for virus isolation | Dr. Rohani, Mrs. Wan Najdah, Mr Mohd Hanif |
| 1300-1400 | **LUNCH BREAK** | |
| 1400-1600 | Isolation of Dengue Virus From **Mosquito Samples** by Inoculation into C6/36 Cell Culture (Practical) | Dr. Rohani, Mrs. Wan Najdah, Mr Mohd Hanif |
| 1600-1615 | **TEA BREAK** | |
| 1615-1730 | Isolation of Dengue Virus From **Mosquito Samples** by Inoculation into C6/36 Cell Culture (Practical) | Dr. Rohani, Mrs. Wan Najdah, Mr Mohd Hanif |

**13 AUGUST 2014**

| **TIME** | **SUBJECT** | **LECTURER** |
|---|---|---|
| 0800-1300 | Visit to Malaysian Technical Cooperation Programme (MTCP), Ministry of Foreign Affairs, Malaysia. | Dr. Noor Rain Abdullah |
| 1300-1400 | **LUNCH BREAK** | |
| 1400-1600 | RNA Extraction of Dengue Virus **From Human Samples** (Practical) | Dr. Ravindran Thayan, Mr Khairul Izwan Hulaimi |
| | RNA Extraction of Dengue Virus from **Mosquito Sample** PCR (Practical) | Dr. Rohani, Mrs. Wan Najdah, Mr Aidil Azahari, Umi Rubiah Sastu, Nur Fasihah Amir Jalaluddin |
| 1600-1615 | **TEA BREAK** | |
| 1615-1730 | RNA Extraction of Dengue Virus **From Human** Samples (Practical) | Dr. Ravindran Thayan, Mr Khairul Izwan Hulaimi |
| | RNA Extraction of Dengue Virus from **Mosquito Sample** PCR (Practical) | Dr. Rohani, Mrs. Wan Najdah, Mr Aidil Azahari, Umi Rubiah Sastu, Nur Fasihah Amir Jalaluddin |

**14 AUGUST 2014**

| **TIME** | **SUBJECT** | **LECTURER** |
|---|---|---|
| 0800-0830 | PCR: Gel Electrophoresis and trouble-shooting (Lecture) | Dr. Ravindran Thayan |

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|---|---|---|
| 0900-1030 | Real Time RT-PCR for Dengue Viruses(Demo) | Dr. Ravindran, Dr Ridzuan, Mr Khairul Izwan Hulaimi, Mr Chandru |
| 1030-1100 | **TEA BREAK** | |
| 1100-1200 | Real Time RT-PCR and Data Analysis (Demo) | Dr. Ravindran, Dr Ridzuan, Mr Khairul Izwan Hulaimi, Mr Chandru |
| 1200-1300 | Quantify DNA by Nano Drop (Demo)<br>The Use of Bioanalyser in Gel Electrophoresis and DNA Quantification | Dr. Noor Rain Abdullah,<br>Dr. Mohd Ridzuan MAR<br>En. Muhammad Nor Farhan Saat<br>Ms. Umi Rubiah Sastu, |
| 1300-1400 | **LUNCH BREAK** | |
| 1400-1500 | The use of *Carica papaya* leaves juice as a supportive treatment in Dengue Fever and Dengue Haemorrhagic fever | Dr. Soobitha Subenthiran |
| 1500-1600 | Preparation of Conventional PCR Amplification on mosquitoes and human samples | Dr. Ravindran Thayan, Dr Rohani, Mrs. Wan Najdah Mr. Aidil Azahari, Umi Rubiah Sastu, Nur Fasihah Amir Jalaluddin |
| 1600-1615 | **TEA BREAK** | |
| 1615-1730 | Preparation of Conventional PCR Amplification on mosquitoes and human samples | Dr. Ravindran Thayan, Mrs. Wan Najdah Mr. Aidil Azahari, Umi Rubiah Sastu, Nur Fasihah Amir Jalaluddin |

**15 AUGUST 2014**

| **TIME** | **SUBJECT** | **LECTURER** |
|---|---|---|
| 0800-0830 | Specimen Preservation, Processing and Shipment (Lecture) | Dr. Nazni Wasi Ahmad |
| 0900-1030 | Trouble shooting on PCR assay (Lecture) | Dr Ravindran Thayan |
| 1030-1100 | **TEA BREAK** | |
| 1100-1200 | Preparation of gel electrophoresis for the conventional PCR (Practical) | Dr Rohani, Mrs. Wan Najdah Mr. Aidil Azahari<br>MN Farhan, Umi Rubiah Sastu, |
| 1200-1300 | **LUNCH BREAK** | |

| | | |
|---|---|---|
| 1300-1430 | **FRIDAY PRAYER** | |
| 1430-1630 | Gel electrophoresis: loading of samples | Dr Rohani, Mrs. Wan Najdah Mr. Aidil Azahari, MN Farhan, Umi Rubiah Sastu |
| 1630-1645 | **TEA BREAK** | |
| 1645-1730 | Gel documentation | Dr Rohani, Mrs. Wan Najdah Mr. Aidil Azahari, MN Farhan, Umi Rubiah Sastu |

**16 AUGUST 2014**

| **TIME** | **SUBJECT** | **LECTURER** |
|---|---|---|
| 9.00 – 2.00 pm | Kuala Lumpur Petronas Twin Tower | En. Muhammad Nor Farhan, En. Nicholas Gagah |

**18 AUGUST 2014**

| **TIME** | **SUBJECT** | **LECTURER** |
|---|---|---|
| 0800-1030 | Q and A | |
| 1030-1100 | **TEA BREAK** | |
| 1100-1200 | Discussion and Course Evaluation, NETWORKING (Discussion) | Dr. Zakiah Ismail, Dr. Noor Rain Abdullah, Dr. Amal Nasir Mustafa, Dr. Nazni Wasi Ahmad, Dr. Khadri SH |
| 1200-1300 | **LUNCH BREAK** | |
| 1300-1430 | Presentation of Certificate and Closing Ceremony | Dr. Zakiah Ismail |

**APPENDIX 6**

**DAP&E 2013 RESEARCH PROJECT**

| NO. | PROJECT TITLES | Students |
|---|---|---|
| 1. | Eastablishment of genetic barcodes for some potential hosts of hard ticks (Acari: Ixodidae) | Mr. Tsolmon Amartuvshin (Mongolia) |
| 2. | Use of sticky trap to control the house fly, *Musca domestica* (L.) (Diptera) in a buffalo milking farm. | Ms. Nurul Asyikin bt Roslan (Malaysia) |
| 3. | Behavioural response of *Aedes* Mosquito using single tunnel cage on synthetic semiochemicals. | Mr. Mau Charles (Solomon Islands) |
| 4. | Effects of thermal fogging activities on hatchability and survivorship of *Aedes* eggs. | Mr. Taraumae Peter (Solomon Islands) |
| 5. | In vitro anti-plasmodial activity of selected Malaysian medicinal plant extracts | Mrs. Matsena Zvifadzo (Zimbabwe) |
| 6. | In Vitro Cultivation of Wolbachia pipientis isolate | Mr. Vineshwaran Rama (Fiji Islands) |
| 7. | Development of IMR Autocidal Trap II as a tool in dengue vector control | Miss Nur Ziana bt Abdulah Sani (Malaysia) |
| 8. | Bioefficacy of lifenets® against *Anopheles maculatus, Aedes aegypti* and *Culex quinquefasciatus* | Mr. Do Van Nguyen (Vietnam) |
| 9. | Residual Efficacy of Lots of VectoBac WG (alternate media) By Spray Application. | Mr. Roger Jimmy (Vanuatu) |
| 10. | Invitro effect of the seaweed extracts toward mosquito detoxification enzymes | Mrs. Preeyante Dathong (Thailand) |
| 11. | Conventional stain vs Fluorescent Stain for Staining of Selected Parasites in the Laboratory | Mrs. Noveno S. Venus (Philippines) |
| 12. | Possible foodborne disease: Exposure of Parasite on meat obtained from abattoirs in Kuala Lumpur. | Mr. Majed Hazza Alhawoasha (Jordan) |
| 13. | Zoonotic parasites of rodents captured in the Chow Kit area, Kuala Lumpur | Mr. Emmanuel Madzima (Zimbabwe) |
| 14. | Study of *P. falciparum* Merozoite surface protein 1 (MSP-!), Merozoite surface protein 2 (MSP 2) and Glutamate Rich Protein (GLURP) polymorphic genes on positive malaria infected non-clinical sample from Kota Marudu, Sabah. | Mr. Abbas Abdul Karim (Ghana) |

**APPENDIX 7**

**LIST OF DAP&E 2014 STUDENTS UNDER MTCP**

| NO | NAME | NEGARA | ADDRESSES, TELEFON, FAX & EMAIL |
|---|---|---|---|
| 1. | Gregorio Rangel  | TIMOR LESTE | National Health Laboratory, Ministry of Health, Timor-Leste<br>670-77668352 (Home)<br>670-3321047 (Office)<br>Email: gregoriorangel@yahoo.com |
| 2. | Asmaa Abd-Elnaby  | EGYPT | Animal Health Research Institute, Nadi El-Said Street, Dokki, Giza, Egypt.<br>02-02-23690073 (Home)<br>02-02-27489022 (Office)<br>Email: asmaa.alnady@yahoo.com |

| | | | |
|---|---|---|---|
| 3. | Warusawithana Apeksha Lailani<br>  | SRI LANKA | Department of Entomology, Medical Research Institute, Colombo – 08, Sri Lanka<br>Email: allw318@yahoo.com |
| 4. | Nartey David Basil Nartei<br>  | GHANA | National Public Health & Reference Laboratory<br>P.O. Box 300, Korle-Bu Accra, Ghana<br>Email: drbasil30@hotmail.co.uk |
| 5. | Majhalia Torno<br>  | PHILIPPINES | Research Institute for Tropical Medicine, Filinvest Corp. City, Alabang, Muntinlupa City 1780<br>Email: majhalia@yahoo.com or majhtorno@gmail.com |