Workshop Programme

November 11, 2016

8:00 am – 3:00 pm — ***Registration***

8:30 – 8:40 am
Lecture Theatre 3
Opening Remarks
H Fletcher

8:40 – 9:00 am
Lecture Theatre 3
Plenary Lecture
Chair: C Cunningham-Myrie
Critical Socio-ecological perspectives on one health for the Caribbean
N Jack

9:00 am – 10:15 am — ***Workshop: Clinical Medicine and the Animal-Human-Environment Interface***

Workshop 1
Lecture Theatre 2
When the Environment, Climate and Occupations Intersect
Chair: H Scarlette

Climatic influences on human diseases
M Taylor

The human-animal interface – zoonotic diseases and occupational concerns
P Cadogan

Sick-building Syndrome
S East-Miles
Occupational Health Services, Kingston

This session will examine, with specific examples, the interplay between the environment, climate change and human activities. It is clear that climate change and associated environmental changes are key public health challenges. Given that the applied disciplines of public health and preventive medicine share the common mission of preventing illness, injury and premature mortality, and of promoting health and well-being, public health professionals need to develop new ways of thinking, communicating and intervening. With regard to thinking, it requires addressing a far longer time-frame than has been customary in health planning and it needs a systems approach that extends well beyond the current boundaries of the health sciences and the formal health sector. Communicating about the risks requires messages that motivate constructive engagement and support wise policy choices, rather than engendering indifference, fear, or despair. Interventions that address the issues should offer a range of health, environmental, economic and social benefits. The questions being faced are not so much 'whether' or 'why', but 'what' and 'how'? What do we do to prevent injury, illness and suffering related to climate change and how do we do it most effectively?

Upon completion of this session, participants should be able to:

- *Describe how climate can influence human diseases*
- *Explain how the human-animal-environment interface can expose persons to zoonotic diseases*
- *Describe the characteristics of the sick-building syndrome*
- *Identify strategies for management, reduction and prevention of illnesses at these intersections*

Workshop 2
Lecture Theatre 3

Microbiomes and Modelling in Health and Disease
Chair: R Wright-Pascoe

Human microbiome in health and disease – overview
PD Brown

The microbiome in healthy Jamaican vs Indian and American women
M Thame

Modelling in clinical trials
M Reid
Caribbean Institute for Health Research, The University of the West Indies, Kingston 7, Jamaica

Recent technological advancements and expanded efforts have led to a tremendous growth in the collective knowledge of the human microbiome. Healthy adult humans typically harbour more than 1000 species of bacteria, and community types found in the stool are associated with breastfeeding, gender, ethnicity and education. Studies have shown that in healthy adults the microbiome is stable over decades if not for an individual's entire lifetime as evidenced by species shared with adult family members but not with unrelated individuals. In health, the microbiome is indispensable in metabolism, host protection and immune development, and the gut-brain axis. The microbiome has been associated with diseases of the digestive, respiratory, urogenital, cardiovascular, and central nervous systems and several cancers. The use of animal models have been invaluable in studying the pathology, host immune response and the complex interactions between host and pathogen. However, for many years, their use has presented strong public and scientific concerns, as well as philosophical contradictions. While the use of animal models are the mainstay to decipher the causal agents of several diseases, there are physical models (constructed from materials), mathematical models (contain series of equations that represent theoretical interpretations of real-life situations) and 'paper and pencil' models (sketches of a particular system, defining key elements, with interactions for particular outcome).

Upon completion of this session, participants should be able to:

- *Describe the association between the microbiome and health or disease*
- *Discuss the possible causes for differences seen in the microbiome of Jamaican vs Indian and American women*
- *Identify different models that are used in clinical research*

Workshop 3
9:00 am – 12 pm
Molecular Biology South Laboratory, level 2

Whole Genome Sequencing
Instructor: J Rodriguez
Bioanalytical Instruments, Puerto Rico

Whole genome sequencing (WGS) has become the reference microbial typing method in outbreak studies and is increasingly applied to national surveillance of infectious diseases in many developed countries and beyond. The hope is that WGS will improve the accuracy and effectiveness of disease surveillance, outbreak investigation and evaluation of prevention

policies by enhanced assessment of disease and drug resistance transmission dynamics. While there is no WGS platform in Jamaica, this training will be indispensable as the costs for the technology and analyses are trending downward, and with the focus towards multi-country evaluation of the public health effectiveness of WGS-based typing, local scientists can benefit and be able to assess outcomes in terms of disease prevention and public health risk assessment.

Upon completion of this session, participants should be able to:

- *Describe the basic characteristics of whole genome sequencing for infectious disease agents, including the strengths and weaknesses of the technology*
- *Discuss the applications for outbreak/epidemic disease investigations*

10:15 – 10:45 am ***Coffee break/Viewing of Posters and Exhibits***

10:45 am – 12:00 pm ***Workshop: New Paradigms and Challenges in Healthcare***

Workshop 4 ***Environmental Stressors and Health***
Lecture Theatre 2 ***Chair: W Abel***

Violence and public health
E Ward

We are what we eat: environmental toxins in our food
D Robinson

Environmental stressors and mental health
J Mullings
Dean's Office, Faculty of Medical Sciences, The University of the West Indies, Kingston 7, Jamaica

This session will highlight the significant environmental effects stressors have on public health. Everyday life is full of environmental stressors that cause minor irritations. Understanding the vulnerability to environmental stress can help persons control one of the biggest causes of stress. Potential sources of environmental stress permeate all aspects of our lives in our crowded, noisy, polluted cities and towns. In many cases, the effects of these stresses are cumulative, and while there is often a feeling of powerlessness, the experts suggest that controlling your exposure or how you react might be key for survival.

Upon completion of this session, participants should be able to:

- *Describe how environmental stressors affect health*
- *Discuss how violence, environmental toxins in foods and other stressors affect our health and well-being*

Workshop 5 ***The Scourge of Anti-microbial Resistance***
Lecture Theatre 3 ***Chair: C-A Thoms-Rodriguez***

Mitigating anti-microbial resistance in agricultural systems
R Isaacson

Anti-microbial stewardship: are we running out of options?
A Nicholson
Department of Microbiology, The University of the West Indies, Kingston 7, Jamaica

Antimicrobial agents are naturally occurring, semi-synthetic compounds that have antimicrobial activity such as bactericidal or bacteriostatic effects and are used for the prevention and treatment of clinical infections in both human and veterinary medicine. While antimicrobial resistance (AMR) is an inevitable evolutionary response to antimicrobial use, it has become a major threat to public health as health officials try to contain drug resistance, which particularly complicates the therapeutics for control and limits what is available for emerging infections. For many years, we have been faced with the emergence and spread of microorganisms resistant to one or more antimicrobial agents commonly used in the treatment of infections. In some cases, pathogens have become resistant to all anti-infectious drugs, eg, extreme- and multi-drug resistant Mycobacterium tuberculosis, leading to therapeutic failure. While most multiple drug resistant pathogens were traditionally associated with hospital-based (nosocomial) infections, many are being isolated from community sources. This has precipitated a plethora of strategies to contain these organisms, while the scientific community struggle to keep pace with the need to devise new drug combinations. This highlights the importance of including the role of the environmental factors in AMR risk management, namely antimicrobials in soils and water, the use of antimicrobials in animal feed and the overuse of antimicrobials in veterinary/agricultural systems.

Upon completion of this session, participants should be able to:

- *Describe the association between veterinary use of antimicrobial agents and issues with clinical treatment*
- *Discuss ways of mitigating antimicrobial resistance in agricultural systems*
- *Describe the characteristics of proper antimicrobial use and stewardship*

Workshop 6
10:45 am – 12:00 pm
Rooms A-035 and A-036

Reference Citation using EndNote

Instructors: *J Lewis[1] and K Tyrell[2]*
[1]Coordinator of the Mona Information Literacy Unit – MILU
[2]Liaison Librarian for Basic Medical Sciences, The University of the West Indies, Kingston 7, Jamaica

This session will give participants hands-on training in the use of EndNote software. Endnote has several functionalities. First, as an online search tool, Endnote allows researchers to search online bibliographic resources and retrieve references directly into their EndNote library. The programme also allows the export of references directly to EndNote from any online resource. Second, EndNote is a reference and full text organizer with a collaborative Web tool, which can be used to synchronize references, file attachments, and figure attachments with an EndNote online account; group references according to research projects and attach up to 45 files per record for managing related materials; locate full text PDF documents or create a reference when importing a PDF file; import and rename PDF documents; and share groups with other EndNote users easily and manage publication lists. Third, EndNote as a bibliography maker, allows the researcher to cite and format references, or to create bibliographies.

Upon completion of this session, participants should be able to:

- *Use EndNote to search online for bibliographic resources and retrieve references*
- *Use EndNote to organize and synchronize references*
- *Use EndNote to compile a bibliography and format references using different citation styles*

Participants are expected to bring their own devices (laptops, iPads, etc) and have EndNote (available from MITS) pre-loaded on their systems

12:00 pm ***LUNCH***

Workshop 7
1:00 pm – 3:30 pm
Lecture Theatre 3

Workshop: Advances in Arboviral and Zoonotic Infections
Chairs: J Lindo and G Morse
Virology testing and diagnostic challenges in the Caribbean
L Kramer

Advances in zika, dengue, chikungunya research
T Endy

Medical entomology and molecular techniques
S Sandiford

HIV, microbiome and ageing
A Landay
Rush Medical College, USA

In light of recent and prevailing threats and outbreaks of pandemic viral illnesses, this session will discuss the challenges associated with virology testing and diagnosis in the Caribbean, advances in Zika, Dengue and Chikungunya research, and medical entomology and application of molecular techniques, as well as associations between human immunodeficiency virus (HIV), the microbiome and ageing. Speakers will be part of a Panel Discussion.

Upon completion of this session, participants should be able to:

- *Discuss the challenges associated with virology testing and diagnosis in the Caribbean*
- *Describe important advances in Zika, Dengue, Chikungunya virus research, medical entomology and application of molecular techniques*
- *Identify associations between HIV, the microbiome and ageing*

Panel Discussion

Workshop 8
1:00 pm – 2:15 pm
Rooms A-035

Reference Citation using EndNote
Instructor: F McKoy-Johnson
Information Literacy Librarian at the Medical Branch Library, The University of the West Indies, Kingston 7, Jamaica

3:30 pm – 4:00 pm
Lecture Theatre 3

This session will give participants hands-on training in the use of EndNote software. Endnote has several functionalities. First, as an online search tool, Endnote allows researchers to search online bibliographic resources and retrieve references directly into their EndNote library. The programme also allows the export of references directly to EndNote from any online resource. Second, EndNote is a reference and full text organizer with a collaborative Web tool, which can be used to synchronize references, file attachments, and figure attachments with an EndNote online account; group references according to research projects and attach up to 45 files per record for managing related materials; locate full text PDF documents or create a reference when importing a PDF file; import and rename PDF documents; and share groups with other EndNote users easily and manage publication lists. Third, EndNote as a bibliography maker, allows the researcher to cite and format references, or to create bibliographies.

Upon completion of this session, participants should be able to:

- *Use EndNote to search online for bibliographic resources and retrieve references*
- *Use EndNote to organize and synchronize references*
- *Use EndNote to compile a bibliography and format references using different citation styles*

PRESENTATION OF PRIZES AND CLOSING REMARKS
P Brown

Prizes:

Dean's Prize for Best Oral Presentation
Dean's Prize for Best Poster Presentation
Dean's Prize for Best Overall Presentation
The UWI Medical Alumni Prize for the best medical student presentation
The Prof Manley West Best Student Research Presentation in Pharmacology
The Basic Medical Sciences, Faculty of Medical Sciences Prize
The Association of Consultant Physicians of Jamaica
The Paediatric Association of Jamaica
The Jamaica Emergency Medicine Association
The Jamaican Association of Clinical Pathologists
The American Society for Microbiology