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INFORMM USM WILL ORGANISE TALKS ON DIAGNOSING DENGUE IN TIMES OF MASSIVE CHIKUNGUNYA AND ZIKA OUTBREAKS

The Institute for Research in Molecular Medicine (INFORMM), Universiti Sains Malaysia would like to cordially invite all experts to talks by the Project Leader at NovaTec Immundiagnostica GmbH, Dr. Andreas Latz, at INFORMM Auditorium, USM Main Campus on 22nd April 2016 (Friday).

Session 1- 11:00 am-11:30 am entitled "Diagnosing Dengue in times of massive Chikungunya and Zika outbreaks"

Session 2 -11:45 am-12:15 pm entitled "One Health: Development of serological diagnostics assays for parasites and tropical diseases in humans and animals".

According to INFORMM Deputy Director, Associate Professor Dr. Gurjeet Kaur, the first session talk will focus on the Aedes trio (Dengue, Chikungunya, Zika) which are arthropod-borne viruses that are transmitted by mosquitoes of different Aedes species and they have been reported in Africa, the Americas, Asia and the Pacific Islands.

"Dengue shares some clinical signs with Chikungunya and Zika and they can be misdiagnosed in areas where these arboviruses are common and WHO declared a Public Health Emergency of International Concern (PHEIC) regarding a recent cluster of microcephaly cases and other neurological disorders and the possible association of these illnesses with Zika virus infections, thus WHO has recommended efforts towards improved surveillance of Zika virus," she said.

The speaker, Dr. Andreas Latz is a project Leader at NovaTec Immundiagnostica's Genetic Engineering department since 2010 and he is also a principal investigator of antigen development and veterinary ELISA and Lineblot development and the group leader of human diagnostics development.

In this talk, he will show how fully automated ELISA assays can help in the management of outbreaks, proper diagnosis of individuals and surveillance of populations at risk.

Furthermore, for the second session, the talk will mainly touch on Serological diagnostic assays aim on the detection of antibodies specific for pathogens causing infections in the bodies of humans as well as animals and the different methods which can be used to measure antibody levels like lateral flow rapid tests, immunofluorescence, agglutination, blots and ELISA beside many other methods.

“All of them have some advantages and disadvantages when compared to each other, ELISAs are known to be ideal for high throughput screening with good performance while Lineblots provide high sensitivity and specificity in contrast to common rapid tests which often show a bad performance,” she added.

Measurement of specific antibodies is sometimes the only possibility to reliably diagnose certain diseases to provide early treatment and improve the prognosis of patients. In addition screening seroprevalence within populations for the presence of certain pathogens, monitor treatment success, raising awareness and preparedness in outbreak situations, secure safety of blood products, diagnose congenital transmission, or analyze spreading of a emerging disease due to travelling and migration are other areas of application.

Moreover, many worms, parasites and tropical diseases are zoonotic infections with great socioeconomic impact and in this case, pathogens can be passed from an animal to a human being and back.

“In order to fight these diseases, it is not sufficient to implement actions for the human host but to implement collaborative effort of multiple disciplines - working locally, nationally, and globally - to attain optimal health for people, animals and the environment,” she said.

Many emerging health issues are linked to increasing contacts between humans and animals, intensification and integration of food production, and the expansion of international travel and in addition, global warming is increasing the habitat for certain animals which have resulted in the spreading and emerging of zoonotic diseases into new regions, and therefore the veterinary reservoir has to be taken into account.

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