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SIgN Immunology Seminar



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Using high resolution approaches to understand Ebola virus biology: from patient to cell

Host
Dr Lisa Ng
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Date
Monday
1 February 2016

Time
11am – 12pm

Venue
SIgN Seminar Room
Immunos Building
Level 4
Biopolis

The recent Ebola virus (EBOV) outbreak in West Africa has devastated regional infrastructure and has only recently been brought under control. The scale of the outbreak has provided an unprecedented glimpse into the biology of the virus. Our laboratory is closely associated with the Public Health England and the European Mobile Laboratory, which was the first diagnostic laboratory to deploy to the epicentre of the outbreak in Guinea. Using high resolution approaches including RNA sequencing and quantitative proteomics we have been studying the new strain variant of EBOV called Makona, both using patient samples and work in cell culture, and comparing the biology of the virus to EBOV Reston strain that is non-pathogen in humans. This has particularly focused on patients with acute EBOV disease and why some patients survive and others have a fatal infection. Our data indicates that both viral genetics and host cell variation contribute to the outcome of infection. A machine learning approach was used to identify a gene signature that predicted EBOV outcome with 85% accuracy.