

## QEII Technicians Study Award, 2018

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I was thrilled to receive a QEII study award which I recently used (September 2 – 14) to learn a new assay at the World Health Organisation Collaborating Centre (WHO CC), The Peter Doherty Institute for Infection and Immunity, Melbourne, Australia.

The Clinical Virology Laboratory, at ESR, is a WHO National Influenza Centre (NIC) and we are the only NIC, of two, in New Zealand that cultures the Influenza Viruses to determine their antigenic subtype. Any Viruses we culture and test are sent over to the Peter Doherty Institute for Infection and Immunity, for further, more intensive subtyping and these results are presented at the annual 'Vaccine selection' meetings made up of WHO collaborating centre (and other) delegates.

In recent years the Influenza A/H3 virus (one of four types that commonly affect humans) has mutated intensively and is becoming quite problematic to identify by the usual, standard, methods.

The staff at the WHO CC in Melbourne have set up a new method for subtyping the A/H3 virus and learning this method, the 'Focus Reduction Assay (FRA),' is what I used the QEII award for.

The FRA is quite a long process, but, seems to be very promising in aiding the identification of Influenza A/H3. Please see the photos below....



Setting up a FRA virus titration with guidance from Mrs Heidi Peck.



Staining the virus titration plates.



The blue area represents the presence of Influenza A/H3 virus in the cells.



Setting up phase two of the assay; using a range of antibodies to inhibit the virus growth.



Mrs Tasoula Zakis and I analyse our plates on the Immunospot Reader.

As well as learning the FRA, I was able to help the staff there with their regular assays during this busy 'pre-vaccine meeting' time plus was able to meet and have discussions about:

1. The Influenza season in Australia and in the Southern hemisphere, in general, with Dr. Ian Barr.

2. The latest ideas in testing for Antiviral drug resistance (an assay I run in our laboratory) with Dr. Aeron Hurt.
3. The epidemiology of Influenza viruses in NZ with Naomi Komadina (I also helped her with some of the geography of places in NZ!)
4. The genomic sequences of the A/H3 Influenza viruses from NZ with Dr Yi-Mo Deng. Interestingly we have three genetically different strains of A/H3 circulating here this season.

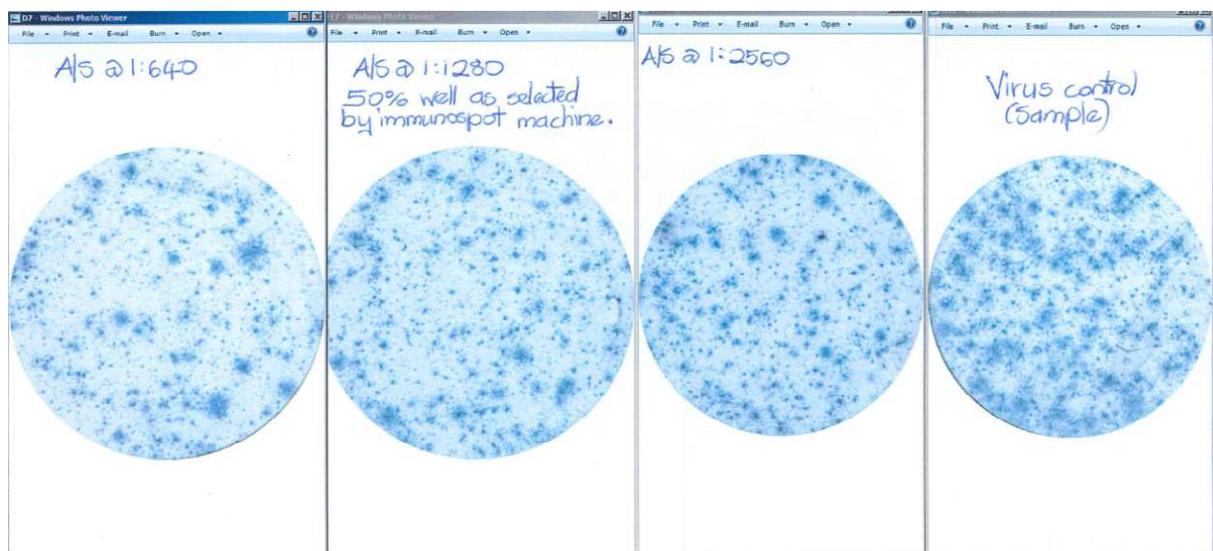
And; I was also able to meet with Dr Bruce Thorley to discuss the Polio outbreak in Papua New Guinea. Our Clinical Virology Laboratory is also the National Polio laboratory for NZ.

All in all this was a very successful trip and I have already got the FRA underway in our laboratory. Once I have validated the method here and gained IANZ (International Accreditation NZ) approval, we will be able to offer this assay to our clients as well as assist the WHO CC Melbourne with identification of NZ A/H3 Influenza viruses.

It is also invaluable to meet colleagues face to face and make important contacts.

Thank you for the great opportunity.

Jacqui Ralston



A 'close up' view of some of the wells containing Influenza A/H3 virus. The dark blue spots mark the presence of virus in the cells growing in the wells (circles).