2017 APHL™ Annual Meeting
and eleventh government environmental laboratory conference

June 11–14, 2017
Providence, RI
Rhode Island Convention Center
Unlocking the Secrets of Zika

Moderated by: Sara Vetter, PhD, D(ABMM)

Speakers: Susan Wong, PhD
Rafael Tosada, PhD
Pei-Yong-Shi, PhD
ZIKA FOREST RESEARCH FIELD STATION.
UGANDA VIRUS RESEARCH INSTITUTE (UVRI)
P.O. BOX 49 ENTEBBE.
TEL: 0414-320631
Zika Virus

- Single-stranded, positive sense RNA virus
- Two primary lineages: African and Asian
- Genus *Flavivirus*
- Closely related to yellow fever, West Nile, dengue, and Japanese encephalitis viruses
- Primary method of transmission is mosquito-human-mosquito
Some Secrets of Zika:

• can cause microcephaly
• has been associated with Guillain-Barré syndrome
• can be sexually transmitted
• RNA can be detected in multiple specimen types
• RNA may persist longer in some patients

Between 1947 and December 31, 2015: 233 papers on Zika
Since January, 2016: 2501 articles published
Zika Antibody Response

The diagram illustrates the timeline of viral load detected by RT-PCR, viraemia, and antibody response quantified by ELISA. The NS1 protein is detected for a period, followed by a peak in IgM antibodies and a subsequent rise in IgG antibodies. The timeline ranges from acute illness to 50 days, highlighting the temporal dynamics of the immune response to Zika virus infection.
Diagnostic Discoveries

• **Susan Wong, PhD**: Increasing the accuracy through the use of IgG and Nonstructural Proteins

• **Rafael Tosada, PhD**: Diagnosis: Challenges and Opportunities

• **Pei-Yong Shi, PhD**: Neutralization Assay and Vaccine Development