

REPORT

Report on participation of the ICMR International Fellow (ICMR-IF) in Training/Research abroad.

1. Name and designation of ICMR- IF : Dr. Alex Eapen, Scientist E
2. Address : ICMR- National Institute of Malaria Research
NIE Campus, 2nd Main Road, Chennai – 600 077.
3. Frontline area of research in which training/research was carried out : *Wolbachia* based vector borne disease control
4. Name & address of Professor and host institute : Prof. Zhiyong Xi
Dept. of Microbiology & Molecular Genetics,
293 Farm Lane, Room 314,
Michigan State University,
East Lansing, MI 48824.
5. Duration of fellowship with exact date : 24th September to 23rd November 2019
6. Highlights of work conducted:

i) Technique/expertise acquired:

The hands-on training techniques include 1) vector competence assay 2) *Wolbachia* detection and 3) Cytoplasmic incompatibility cross experiment. Detail techniques/experiments were (a) Dengue virus propagation in the C6/36 cell line, (b) Viral infection of mosquitoes to measure their susceptibility for dengue virus. (c) midgut and salivary glands dissection of vector mosquitoes (d) DNA sample extraction, RNA sample extraction, cDNA preparation, PCR and qPCR test and (e) Dengue plaque assay. All of these are the key techniques for quality control to develop *Wolbachia* based strategy for the control of vector borne diseases which can be applied to any other areas.


ii) Research results, including any papers, prepared/submitted for publication:

Not submitted for publication.

iii) Proposed utilization of the experience in India:

The hands on training would help the scientist to carry out *Wolbachia* based control strategy against Dengue, Chikungunya and Zika vector, *Aedes aegypti*. The technique can also be tested against *Anopheles stephensi*, urban malaria vector as India has planned to eliminate malaria by 2030. *Wolbachia* based control strategy has the potential to provide a persistent effect on disease control. The strategy is eco-friendly and environmentally safe bio-control approach, which has been advocated by WHO Vector Control Advisory Group (VCAG). Hence, this approach would be useful to control vector borne diseases.

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Signature of ICMR-IF


19/12/19
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