



**University of
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Eidgenössische Technische Hochschule Zürich
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The Ecology, Evolution, Environment & Behavior UZH / ETH Joint Seminar Series

Using endosymbionts in insects in applied settings: achievements and challenges

Speaker:	Prof. Ary Hoffmann School of Biosciences, University of Melbourne, Melbourne, Australia https://findanexpert.unimelb.edu.au/profile/17129-ary-hoffmann
Date/Time:	Tuesday, 2024-04-30 16:15 to 17:15
	online only
Online:	https://us02web.zoom.us/j/87918820812?pwd=ZWxrRzBFbkxUUU5CanRPenkwK3NGUT09 ID: 879 1882 0812 PWD: 691469
Host:	Christoph Vorburger, ETH

Abstract:

Endosymbiont bacteria provide a relatively recent target for pest and disease management, but quite rapid progress has been made. In this seminar I cover some of the main areas being investigated and some of the challenges being encountered. This includes an overview of work on using *Wolbachia* bacteria for both suppressing mosquito populations and for replacing existing mosquito populations with those having a lower capacity to transmit dengue and other arboviruses. I'll highlight some issues with both strategies due to environmental effects on endosymbiont dynamics and unwanted population invasion. I'll then turn to recent work on agricultural pests where initial proof-of-concept work on *Wolbachia*-based blockage of plant virus transmission in planthoppers is now being followed up by other potential applications. These include use of a diverse range of endosymbionts to suppress aphid pests and their ability to vector plant diseases as well as using *Wolbachia* to enhance the effectiveness of deliberately released parasitoids. Such applications raise new challenges particularly in dealing with regulatory frameworks and upscaling but I suspect that many of these will be overcome as chemical control options become more and more limited.

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