

# BIG seminar

Biology and integrative genetics

## Thursday,

## June 3, 15:30h



**Auditorium B Bâtiment Amphipôle**  
**Unil-Sorge at Dorigny**



**Richard Ffrench-Constant**

University of Exeter

**“The molecular basis of natural selection in insects: resistance, mimicry and parasitism.”**

We will examine how insects have contributed to our understanding of genes under strong natural selection. We will look at several examples of Batesian (*Papilio*) and Mullerian (*Heliconius*) mimicry in butterflies and examine candidate pigment pathways and ‘switch’ genes controlling colouration. We will then move onto the use of the fruit fly *Drosophila* as a model for understanding the molecular basis of pesticide (DDT) resistance and look at the number of times resistance associated mutations arise in natural populations and how they may spread. Finally, we will use a dramatic example of a bacterium-nematode-insect (*Photorhabdus-Heterorhabditis-Drosophila*) association to examine how we can functionally annotate the growing number of bacterial pathogen genomes by identifying virulence factor encoding genes therein.

BIG is an initiative of the Faculty of Biology and Medicine, University of Lausanne, and is organized by Uta Paszkowski, Laurent Keller, Henrik Kaessmann and Jan Roelof van der Meer.

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