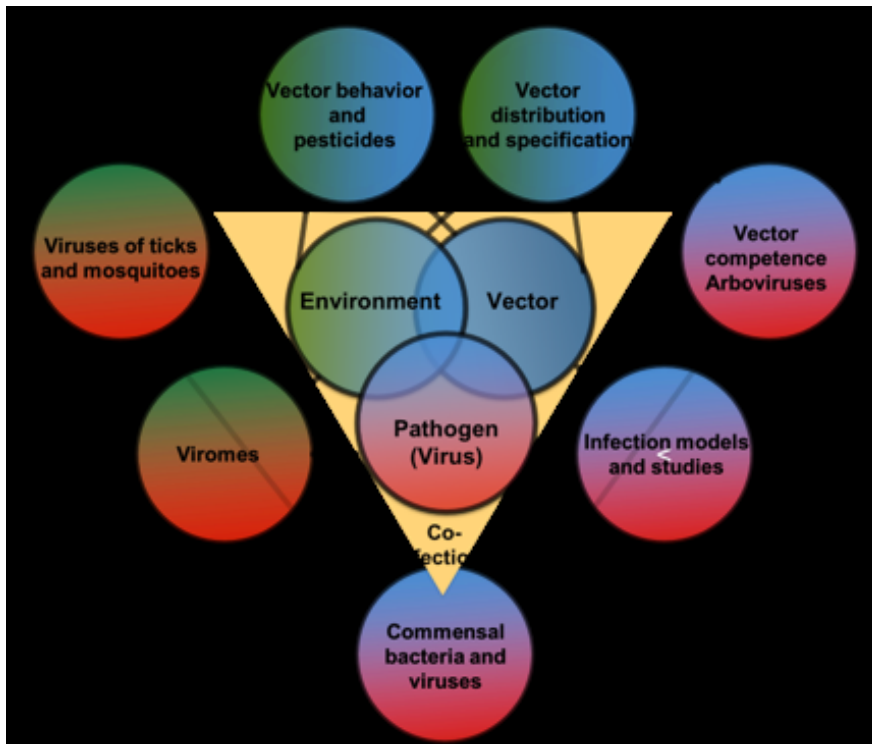


AG Becker

Research Concept

Mosquitoes and other arthropods transmit a large number of medically important pathogens, in particular viruses. Arboviral transmission to humans and livestock constitutes a significant threat to public health and economy as illustrated by Rift Valley fever virus (RVFV) outbreaks in Africa, West Nile Virus (WNV) epidemics in the US and the spread of Tick-borne encephalitis virus (TBEV) in Northern- and Central Europe. The interactions of viruses, vectors (animals transmitting viruses) and the environment are incredibly complex. Answering the general question, if a given viral pathogen also constitutes a risk to public health, is most important, but complicated. Key questions to be answered are i) how do vectors and pathogens interact and what is the role of the microbiota and virome of vectors; ii) how do vectors spread, and evolve through interaction with the environment and; iii) what is the role of viruses and bacteria presented in the environment on vector behaviour. All projects presented in the following will help to answer this general question. They involve different fields such as virology, vector biology, virus and vector ecology, insect immunity and bioinformatics.



Research focus of the AG Becker showing all current projects. Virus work is indicated in red, vector research in blue and environmental components in green, Projects that target more than one of the above named aspects are indicated in mixed colours

Key Aspects

- Vector ecology, taxonomy and population genetics
- Vector immunity
- Virus genetics, evolution and ecology
- Co-Infections and microbiomes

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