



ID der Kurzfassung : 390

Combating WNV through an integrated One Health approach (WNVcomat) –TP 4 One Health & Climate modelling

Inhalt

West Nile virus (WNV) is a mosquito-borne virus that poses a public health risk, causing febrile illness and neuroinvasive infections in humans. WNV spreads increasingly in Europe and the intensity of outbreaks is being exacerbated by climate change.

This project seeks to understand the interactions between WNV vectors, avian hosts, human infection rates, land cover, and climate change at fine temporal and spatial scales and is coordinated by the Charité, Berlin, encompassing 6 sub-projects. Sub-project 4 One Health and Climate modelling is developing a multi-host eco-epidemiological model to understand host-vector networks and pathogen epidemiology in the metropolitan area of Berlin in light of climate change. Data from mosquito and bird sampling, and human and environmental factors will serve as input. High resolution temperature data is derived from remote sensing products with a machine learning approach. We will also develop and feed a mosquito-population model into the eco-epidemiological model. A first risk map for the area of Berlin will be presented. The approach serves as a model for other at-risk cities in Germany and beyond.

Key research questions include the spatial distribution and temporal variation of WNV transmission risk, and the impact of changes in bird diversity, mosquito abundance, and urban heat island effects. The outcomes aim to provide an online platform depicting monthly and local WNV risks in a high spatial resolution and inform the public health.

Keywords

WNV, Culex pipiens, modelling, mosquito-borne disease, ecoepidemiological model

Registration ID

88

Professional Status of the Speaker

PhD Student

Junior Scientist Status

Yes, I am a Junior Scientist.

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Track Klassifizierung: Vectors

Typ des Beitrags: Both options possible

Eingereicht von **DOMDEY, Alina** <alina.domdey@uni-bayreuth.de> am **Freitag, 19. Juni 2026**