Training Workshop: Diversity components in mosquito-borne diseases in face of climate change

Context

Mosquito-borne pathogens such as West Nile virus or chikungunya virus are an increasing threat to veterinary and public health in Europe. Emerging and reemerging transmission patterns are influenced by diverse ecological, environmental, and socio-economic factors. Meanwhile, vaccination and pharmaceutical treatment is either not available or very limited.

One Health, Planetary Health or EcoHealth concepts underline the close linkages between the state of ecosystems and transmission cycles. Beside climatic changes, the role of biodiversity on disease transmission is not well established. **Biodiversity links to mosquito-borne diseases through different pathways such as mosquito and host diversity, or predator diversity for vector control.**

Workshop info

We will discuss current topics in mosquito-borne disease MBD research linked to biodiversity.

Day 1 Biodiversity and vector-borne diseases

- Biodiversity in different health concepts
- Uncertainties in biodiversity research
- Macroecological concepts in MBD research
- One Health: Experimental design, sampling methods and data analysis and visualization in disease ecology

Day 2 Mosquito diversity

- Ecology mosquitoes and associated/emerging pathogens
- Mosquito identification via molecular, morphometric and automated methods
- Invasive mosquitoes
- Host diversity and host-feeding patterns of mosquitoes

Day 3 Model approaches

- Species distribution models
- Joint species distribution models - spatial modeling of abundance data, biotic interactions
- Under current and future climate

Day 4 Vector control

- Integrated vector control and eco-bio-social drivers
- Diverse roles of biodiversity for vector control
- Detection and demonstration of insecticide resistance, use of Dytiscidae as biological control
- Developing an integrated vector control strategy
- Social behavior & behavioral barriers for vector control in different cultural settings

Day 5 Added value

- Discussing student´s PhD/master projects
- Overall gaps and future research options

27 February to 03 March 2023

Bernhard Nocht Institute for Tropical Medicine, Hamburg

Please apply here

Deadline 02 February 2023

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DiMoC

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Speakers

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Prof. Dr. Ruth Müller ITM
Prof. Dr. Schmidt-Chanasit BNITM
Prof. Dr. Gerardo Suzan UAM
Dr. Anna Heitmann BNITM
Dr. Renke Lühken BNITM
Dr. Friedericke Reuß ITM/Senckenberg
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Further Info of the project:
www.dimoc.uni-bayreuth.de
www.biodiversa.org/1757/download