FONDAZIONE BRUNO KESSLER
MAGAZINE

A Research Unit to fight mosquitoes and invasive species has been created

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Fondazione Bruno Kessler and Fondazione Edmund Mach against the spread of alien species

The **Epilab** mixed research unit was presented today at the study day on vector-borne diseases for physicians and veterinarians.
The unit studies **communicable diseases** and, as far as carrier diseases are concerned, **will have the task of quantifying both the health risk associated with the presence of pathogenic vectors, and their possible spread through mathematical and statistical models**.

The study day offered an update on the main arboviroses currently circulating in Italy and on the relative operational and regulatory implications needed to prevent and control the transmission of such viroses in a One Health trans-disciplinary perspective. The speakers of the event included researchers **Stefano Merler** from Fondazione Bruno Kessler and **Roberto Rosà** from Fondazione Edmund Mach, both Epilab's permanent staff, who illustrated techniques and results concerning the modeling and prediction of epidemic events caused by these arboviruses and the goals that the new joint unit will pursue.

"Epilab is an effort to ***systematize skills present within FBK and FEM*** for the study of transmissibility and risk from infectious diseases – ***Stefano Merler*** explained. Fondazione Bruno Kessler has a long tradition in the modeling of infectious diseases, in the study and the prediction of the key parameters that regulate their transmissibility. Fondazione Mach, instead, is renown for its expertise on field entomology. Epilab will systematize these resources with a ***focus on emerging vector-borne diseases***, in particular those trasmitted by the tiger mosquito, ***with the aim to develop integrated methods to understand and prevent the diffusion of the pathogens they can spread***".

"Fondazione Bruno Kessler – FBK's General Secretary **Andrea Simoni** said – has developed over the years important skills and professional competence in quantitative epidemiology of

infectious diseases, as shown by numerous high impact scientific publications, which have also recently led to collaboration with the World Health Organization on important issues such as the assessment of the effectiveness of the Ebola vaccine. ”

Arboviroses are an emerging issue at a global level with important consequences for the public health of Trentino. The causes of the phenomenon are many: first of all, the huge mobility of goods and people caused by globalization in the past thirty years and the ongoing climate changes, factors that most favor and determine the presence, the distribution and the development cycle in the area of various arthropod species of medical interest. During the past three decades, in fact, there have been variations in the incidence of diseases such as Tick-borne viral encephalitis (TBE) in our Province but also the appearance of exotic infections transmitted by endemic vectors (Usutu Virus) as well as vector alien species, like the tiger mosquito and the Korean mosquito, which represent a potential risk for the spreading of tropical diseases such as Chikungunya and dengue fever.

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