



Contribution ID: 538

Type: Oral presentation

AiRisk - A Network on the Risk Airborne Transmission of Infections

Tuesday, October 6, 2026 1:10 PM (9 minutes)

Livestock farming is a major source of antibiotic-resistant bacteria (AMR bacteria), which can be spread through the air, facilitating their transmission. However, it is not yet fully understood how these bacteria, as well as zoonotic pathogens such as *Staph aureus* or *Francisella tularensis*, are transmitted to humans, animals and plants. Current models do not adequately account for rising infection and resistance rates. This knowledge gap hinders effective prevention, surveillance and response to such threats.

The AiRisk project aims to close this gap by investigating a new transmission route: dust. Dust could represent an important link between the various domains of human, animal and environmental health (One Health) and mediate the spread of antibiotic-resistant bacteria and zoonotic pathogens from agriculture into the environment, to wildlife and to humans. Dust particles from livestock farming represent a complex biological mixture containing microorganisms and their resistance genes (the resistome²). In recent years, it has become apparent that this dust is not merely a waste product of livestock farming, but a significant reservoir for antimicrobial resistance and potential pathogens. The spread of these dust particles, as well as the survival capacity of the microbes associated with them, are therefore of epidemiological relevance and have a direct impact on public health.

Keywords

Registration ID

OHS26-0029

Professional Status of the Speaker

Postdoc

Junior Scientist Status

No, I am not a Junior Scientist.

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Session Classification: Session 7: Research consortia on the topic of “Pandemic prevention and response within a One Health framework”

Track Classification: Research consortia on the topic of ”Pandemic prevention and response within a One Health framework” (only for the Pandemic networks currently funded by the BMFTR)