



University
of Basel

Department
Biozentrum



Swiss Institute of
Bioinformatics

BIOZENTRUM

The Center for
Molecular Life Sciences

Basel Computational Biology Seminar

Dr. Sonja Lehtinen

ETH Zürich - Switzerland

Evolutionary epidemiology of antibiotic resistance

Antibiotic resistance is a serious public health concern. Despite a wealth of epidemiological data on resistance dynamics, we lack a mechanistic understanding of the evolutionary and ecological processes that give rise to these dynamics. This hinders our progress towards reliable predictive models of resistance epidemiology.

In this talk, I will present modelling work addressing three puzzling trends:

- Why do resistant and sensitive strains appear to coexist over long time-scales?
- Why do we observe so much multidrug resistance?
- Why are many resistance genes carried on plasmids rather than the chromosome?

I will discuss how tractable mathematical models provide insights into resistance ecology and evolution, and the public health implications of such insights.

Date: Monday, March 6, 2023

Time: 16:15 h – 17:15 h

Location: Biozentrum, U1.197

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