Minisymposium proposal:

Modelling migration and associated importation events of infectious diseases

Session organizer:

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Abstract:

Migration is an important event by which infectious diseases spread across the world. While cross-border migration is accompanied by various complex features including the transportation network and political conflict with refugees, many surveillance systems encompass their function to label imported cases differently from autochthonous ones. Hence, the counts of migration events and imported cases offer important avenues for elucidating the transmission dynamics of infectious diseases. This minisymposium aims to share the ongoing novel approaches to analyzing big data associated with migration and to demonstrate that previously unquantifiable can be quantified using importation data. Not only infectious disease incidence, but we will show that compositions of foreign migrants can also be fully quantified using the McKendrick equation system. Through this minisymposium, we are going to open doors for new directions in formulating epidemiological models and measuring the transmission dynamics of infectious diseases.

Speakers:

Asami Anzai (Hokkaido University): Reconstructing the population dynamics of foreigners in Japan along with the age since immigration

Yusuke Asai (Hokkaido University): Estimating the basic reproduction number from arrival time data

Baoyin Yuan (Hokkaido University): Estimating the actual infection frequency of dengue among Japanese travelers returning from South and Southeast Asian countries

Andrei R. Akhmetzhanov (Hokkaido University): Quantifying the transmission dynamics of pertussis outbreak among refugees