ADVANCES IN MATHEMATICAL MODELS FOR EPIDEMICS AND POPULATION DYNAMICS

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ABSTRACT

This minisymposium is meant to illustrate some recent advances in the mathematical and numerical modelling of epidemics and related issues in the more general field of population dynamics.

The COVID-19 epidemic has greatly stimulated this field, with important advances in different modeling and numerical approaches including classical compartmental models, models based on kinetic theory, data-driven computational models and models that include socio-economical factors driving individual behaviour.

The workshop aims at presenting an overview of the analytical, numerical and statistical issues arising in the development and application of these models, focusing, in particular, on the contributions of early career researchers, and on the new challenges that are likely to arise in the near future, such as avian flu infecting mammalian hosts, or the expansion of mosquito-borne infections, favoured by increased human movement and climate change.