## WILDLIFE POPULATION MODELLING: EXISTING AND NEW METHODS

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Long term studies of wildlife populations often involve collecting abundance data. Recent work has shown how state space models can be used to describe such data and provide an assessment of the population dynamics. State space models provide a general modelling framework and can be fitted with either classical or Bayesian methods. The Bayesian methods can be very flexible but typically rely on the use of informative priors for the underlying demographic processes. The classical methods make use of the Kalman filter but depend on the presence of additional data for demographic information. In the first part of the talk we discuss the advantages and flexibility of the classical approach through a range of applications to avian and mammal populations. In the second part, we introduce a new approach to analysing indices of abundance, which does not employ a state-space model. We illustrate the potential of the new approach by relevant applications and discuss its potential.