



NCSE Summer Meeting @ Kent

26th – 29th June 2017

Programme

The meeting will take place in Grimond Lecture Theatre 2 (Grimond building can be found on the map www.kent.ac.uk/maps/canterbury/canterbury-campus)

Monday 26th June

2.00-2.15 Registration

2.15-2.30 Welcome and Introduction

Chair: *Stephen Buckland* Technical Chair: *Marina Jimenez-Munoz*

2.30-2.50 *Ruth King* Efficient state-space model-fitting for ecological data

2.50-3.10 *Emily Dennis* Efficient occupancy model-fitting for extensive citizen-science data

3.10-3.30 *Byron Morgan* A stochastic dynamic model for longitudinal butterfly data

3.30-4.00 Coffee

Chair: *Takis Besbeas* Technical Chair: *Marina Jimenez-Munoz*

4.00-4.20 *Ming Zhou* The use of penalised likelihood to improve estimation in removal models

4.20-4.40 *Alex Diana* A Polya Tree based model for counts of unmarked individuals in an open population

4.40-5.00 *Eleni Matechou* Modelling temporary emigration using a Bayesian nonparametric changepoint process for capture-recapture data

5.00 Drinks reception in Grimond Foyer.

Tuesday 27th June

9.00-9.10 Announcements

Chair: *Ruth King* Technical Chair: *Alex Diana*

9.10-9.30 *Jon Barry* UK and European Marine Litter Monitoring

9.30-9.50 *Mike Spence* Combining ecosystem models

9.50-10.10 *Len Thomas* Counting something that's almost gone: combined visual-acoustic abundance estimate of the vaquita

10.10-10.30 *Cornelia Oedekoven* Comparing methods for estimating abundance from passive acoustic monitoring data using the example of bowhead whales

10.30-11.00 Coffee

Chair: *Byron Morgan* Technical Chair: *Alex Diana*

11.00-12.00 Invited talk *Rob Freckleton* Measuring and modelling large-scale population dynamics at the interface between statistics and applied ecology

12.00-12.20 *Diana Cole* Problems with Using Data Cloning to Investigate Identifiability

12.30 Free Afternoon with Optional Walk to Whitstable. Meet in Grimond foyer for the walk, leaving at 12.30. Walk will go via campus shop for to buy yourself a packed lunch.

7.00 Meeting Dinner at Café du Soleil, Canterbury. Café du Soleil is near Westgate towers (number 6 on Canterbury Map). Access via the bridge from North Lane car park. (Closest bus stop for Uni bus is St Dunstan's Church.)

Wednesday 28th June

9.00-9.10 Announcements

Chair: *Rosemary Bailey* Technical Chair: *Ming Zhou*

9.10-9.30 *Marina Jimenez-Munoz* Integrated Population Models incorporating Spatial Information

9.30-9.50 *Adam Butler* Modelling the spatial distribution of non-breeding seabirds using multiple data sources

9.50-10.10 *Takis Besbeas* Estimation of roe deer population density in a mountainous Mediterranean area using hierarchical distance sampling

10.10-10.30 *Richard Glennie* Incorporating animal movement with distance sampling and spatial capture-recapture

10.30-11.00 Coffee

Chair: *Paul Blackwell* Technical Chair: *Ming Zhou*

11.00-11.20 *Hajar Alkhezi* Bayesian Inference for animal habitats from movement in continuous time

11.20-11.40 *Alison Parton* Inferring animal movement and behaviour in continuous time from irregular and noisy GPS observations

11.40-12.00 *Joseph Bailey* Multiple movement behaviours with wrapped normally distributed turning angles can lead to mis-classification as a single movement strategy with a wrapped Cauchy distribution.

12.00-12.20 *Théo Michelot* Can animals do MCMC? Integrating resource selection and step selection

12.20-2.00 Lunch. During this lunch hour seminar rooms SR1 and SR2 are available for meetings

Chair: *Emily Dennis* Technical Chair: *Ming Zhou*

2.00-2.20 *Nicola Walker* Using GAMs to estimate fishing gear efficiency in the North Sea

2.20-2.40 *Izabela Barata* How much effort is needed to detect population changes in amphibians? A test using a bromeliad-inhabiting frog

2.40-3.00 *Richard Griffiths* Incorporating statistical models into conservation practice: challenges and opportunities

3.00-3.30 Coffee

Chair: *Jon Barry* Technical Chair: *Ming Zhou*

3.30-3.50 *Martin Ridout* An alternative improved Chao estimator

3.50-4.10 *Paul Blackwell* Will you walk a little faster...? Prospects for efficient inference for continuous-time movement models

4.10-4.30 *Rosemary Bailey* Design and analysis of experiments testing for biodiversity

4.30-4.50 *Stephen Buckland* Monitoring the biodiversity of regions

4.50-5.00 Closing Remarks

Thursday 29th June

9.00-5.00 Workshop on Spatial Point Process Modelling with INLAbru by David Borchers and Finn Lindgren

10.30-11.00 Coffee

12.30-1.30 Lunch

3.00-3.30 Coffee

This workshop will cover methods for species distribution modelling by fitting spatial point process models to data obtained from (1) surveys in which the locations of all population members in an area of interest are observed, (2) surveys in which the locations of population members are observed only within a spatial sub-sample in an area of interest (as might be the case on plot sampling or strip transect surveys), and (3) surveys in which individuals are missed with some unknown probability (including distance sampling surveys).

It will cover models in which the responses are the locations of individual objects, and models in which the responses are counts of objects in space. It includes coverage of marked point process models, in which some characteristic(s) of objects (e.g. group size) are modelled simultaneously with the spatial distribution of the objects.

Concepts and methods will be illustrated with example analyses using the R package “inlabru”, which uses R-INLA to do Bayesian inference. While there is insufficient time in a one-day workshop to give participants the opportunity to use inlabru extensively, some time will be scheduled for participants to do prepared examples using the package. The package is available (currently as a test version) here: <https://sites.google.com/inlabru.org/inlabru>.

Participants should bring their own laptops for use in the workshop and they will receive information on the packages that should be installed prior to the workshop.