

Spatial Point Process Models for Ecological Survey Data, with INLA

Instructors: **David Borchers**, **Janine Illian**, CREEM, St Andrews University,
Fabian Bachl, University of Edinburgh,
Res Altwegg, SEEC, University of Cape Town

Date: 11 – 13 January 2017

Venue: Seminar Room, Kirstenbosch Research Centre, SANBI, Kirstenbosch Botanical Gardens, Cape Town.

Computers: Bring your own laptop. We will send you details of software to install in the week before the workshop

Costs: FREE

Course details

The course will cover the following topics: Modelling individuals in space - spatial Poisson processes, detection functions and thinned Poisson processes on ecological surveys, log-Gaussian Cox processes and Gauss-Markov random fields; Spatial smoothing in discrete and continuous space; spatio-temporal models; use of marked Poisson processes on ecological surveys.

These methods will be illustrated with example analyses that include whole area census surveys, quadrat/plot/strip transect surveys and distance sampling surveys. Participants will be introduced to the R-INLA package `inlabru` (<https://sites.google.com/r-inla.org/inlabru/home>) to be used in the workshop and around half of the workshop will be spent using this package under the supervision of the workshop presenters and assistants.

Participants should have a good working knowledge of the statistical programming language R, and be familiar with the basics of Bayesian inference and regression modelling.

For more information, contact: Res Altwegg (Res.Altwegg@uct.ac.za) or David Borchers (dlb@st-andrews.ac.uk)

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11 – 13 January 2017, Cape Town

COMPLETE IN FULL. Use ONE form per person registering. Please write clearly.

Return completed forms by e-mail to Sue.Kuyper@uct.ac.za (Sue Kuyper)

APPLICANT DETAILS		
Title:	First name:	Last name:
Contact details to be completed in full		
Postal address:		
Postal code:	Country:	
Telephone no:	Cell no:	
Email address:		

Do you have any special dietary requirements? <u>Please be specific.</u>	
Do you have any other special requirements that we should be made aware of? Please provide details.	

Are you a student? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, degree for which you are registered:
	If yes, University and Department:

My goals in attending this workshop:

What is your level of experience with the following?: <ul style="list-style-type: none"> • R: • Bayesian inference: • Plot/quadrat/strip transect sampling: • Distance Sampling:
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Participants need to bring their own laptops running the latest versions of R and R-INLA; we also recommend use of RStudio.

I, agree to attend the workshop **Spatial Point Process Models for Ecological Survey Data, with INLA**