MIXED EFFECTS MODELS IN ECOLOGY

Coimbra, 17-21 May, 2010
www1.ci.uc.pt/imar/mm_10

Department of Life Sciences – University of Coimbra

A specialization course aiming to provide updated statistical tools for data analysis in Ecology using Mixed Effects Modelling.
<u>Pre-required knowledge</u>: Fluent knowledge of data exploration, linear regression and additive modelling is required. Previous attendance of the GLM & GAM course <u>by the same instructors</u> is strongly advised
<u>Keywords</u>: Mixed effects modelling, hierarchical (nested) data, dealing with heterogeneity, temporal correlation, spatial correlation. Repeated measures, time series, spatial data

Coordination:
José Paulo Sousa, IMAR-CIC, Dep. Life Sciences, University of Coimbra, Portugal
Rui Ribeiro, IMAR-CIC, Dep. Life Sciences, University of Coimbra, Portugal

Lecturers:
Alain Zuur, Highland Statistics Ltd, Scotland
Elena Ieno, Highland Statistics Ltd, Scotland

Programme:
The course will include both theoretical and practical lectures, including the analyses of several case studies with real data sets given by the lecturers.
The course will be run in the GUI to R package Brodgar. A one-year license is provided. Participants fluent in R can run the course in R. Solution files of the exercises and demonstrations in R will be provided.

All lectures are in English

Topics:

- Monday (full day):
  Revision linear regression & software
  Generalised least squares (GLS) for dealing with heterogeneity.

- Tuesday (full day):
  Continue with GLS and provide a 10-step protocol
  Introduction linear mixed effects modelling.

- Wednesday (full day) and Thursday (morning):
  Linear mixed effects modelling for hierarchical (nested) data (including 2-way nested data).
  Use of the 10-step protocol.

- Thursday (afternoon) and Friday (full day):
  Dealing with temporal and spatial correlation in regression and smoothing models, and in mixed effects models.

Fees:

Normal course fee – 650 Euro (includes a one-year licence of software Brodgar + a free copy of the *Mixed effects models and extensions in ecology with R* (2009). Zuur, AF, Ieno, EN, Walker, N, Saveliev, AA, and Smith, GM. Springer.)

Discount fee (members of ORDEM DOS BIÓLOGOS, SPEA, SPECO, SPEN, SPCS, SICTA and SETAC) – 600 Euro (includes a one-year licence of software Brodgar, but does not include the free copy of the above mentioned book)

Notes:

1. Course literature and software is copyright protected and may not be reproduced or distributed without permission.
2. The course content might be modified or improved prior to the course start date.
3. Accommodation (and meals) are not included as part of the course fees and participants are expected to make their own arrangements (information about accommodation in Coimbra can be provided upon request).

Number of participants:
Limited to 25 participants

Registrations are done online (www1.ci.uc.pt/imar/mm_10)

Organization:

Instituto do Mar - IMAR
Universidade de Coimbra

Departamento de Ciências da Vida
Universidade de Coimbra

Informations:

José Paulo Sousa
IMAR-CIC
Dept. Ciências da Vida – Universidade de Coimbra
Phone: +351 239855760
Fax: +351 239855789
Email: jps@zoo.uc.pt