



The Alpine Wildlife Research Centre of the Gran Paradiso National Park organizes the workshop:

Gran Paradiso Summer School in Ecological Statistics

Bayesian Data Analysis for Ecologists

Stambeccaia di Cogne, Gran Paradiso National Park, Italy 13-17 July 2009

Introduction

The Alpine Wildlife Research Centre of the Gran Paradiso National Park (Italy), organizes a workshop on Bayesian statistics for ecologists. In recent years, thanks to the improvement in computer speed and memory size, the Bayesian approach to data analysis has seen enormous developments and diffusion in all scientific fields. The aim of this workshop is to present the most advanced Bayesian methods of data analysis and their possible application in ecology where it offers many advantages compared to the classical frequentist approach.

The intensive workshop of 4 and a half days will be a mix between theory and practical computer lab-sessions. The organizers will provide real ecological data series from their research fields and participants are also encouraged to bring their own for the practical data analysis exercises. The workshop will be held in English. Attendees will have to come to the workshop with their own notebook computers with the latest version of the R statistical software installed. R is open-source and can be downloaded freely for Windows, Mac Os and Linux from <http://www.r-project.org>. A basic knowledge in the use of R is of advantage (how to upload data files, install packages, etc.). In the afternoon of the first day (13 July) there will however be an introductory refreshment lesson on the use of R. To increase the interaction possibilities with the instructors, the workshop will be limited to a maximum of 16 participants.

Programme

Monday, 13 July 2009

Afternoon: Introduction to the R statistical environment

Tuesday, 14 July 2009

Morning: Preliminaries, basics on distributions, normal model

Afternoon: More on normal model and bases of Bayesian stats, R easy examples

Wednesday, 15 July 2009

Excursion in a study area of Gran Paradiso National Park

Evening: General MCMC methodology

Thursday, 16 July 2009

Morning: Linear regression, issues about testing, model choice, Gibbs, toy problems

Afternoon: More on model choice & Gibbs, building a full Bayesian evaluation in R

Friday, 17 July 2009

Morning: Generalised linear models, contingency tables, probit models, first examples

Afternoon: Implementation on dataset

To whom is the workshop aimed?

Researchers, post-docs and advanced PhD and Master students. No previous knowledge of Bayesian methods is assumed but basic knowledges of classic statistics (probability distributions, hypothesis testing, linear regression, etc.) are necessary to participate with profit to the workshop.

Instructors

Christian P. Robert, Professor of Statistics, University of Paris Dauphine (France), author of various books on bayesian statistics including the recent “Bayesian Core” (2006) Springer Verlag, New York. <http://www.ceremade.dauphine.fr/~xian/>
Antonietta Mira, Professor of Statistics, Università dell'Insubria (Varese, Italy) and University of Lugano (Switzerland). <http://eco.uninsubria.it/webdocenti/amira/indice.htm>

Accommodation

The workshop will be held in the scientific structure of the Gran Paradiso National Park called “Stambeccaia” in Cogne (Aosta, Valley). Accepted participants will have the possibility to be hosted without further costs in the Park guesthouses (4 beds shared rooms). Those wishing to sleep in the guesthouses will have to bring their own bed linen or sleeping bag. Alternatively participants can find accommodation at their own expenses in one of the numerous hotels of Cogne (information and bookings: <http://www.cogne.org>)

Registration and fees

To register to the workshop please compile the registration form at the following link:
<http://ecostats.altervista.org>

The deadline for registration is the **26 June 2009**. Registration fees are € 350,00 for researchers, post docs and freelance. Student fees are € 250,00. The registration fees includes all workshop materials, accommodation in the park guesthouses and all lunches from the 14 to the 17 of July (during the excursion a pack lunch will be provided). For the fees payment, to be done before the 3 July 2009, participants will be informed about payment modalities after confirmation of acceptance to the workshop. As the workshop is limited to 16 participants, inscriptions will be accepted based on a “first come first served” policy.

Further informations

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