Highland Statistics Ltd. provides 10 different 5-day statistics courses. The course instructors are Dr. Alain Zuur (statistician) and Dr. Elena Ieno (biologist). Our statistical and biological backgrounds ensure a lively and enjoyable interaction with our participants. One of our strong points is explaining statistics in a non-technical and understandable language.

Some of our courses are run as in-house courses whereas other courses are open. For a list of upcoming courses, see: [http://highstat.com/index.php/courses](http://highstat.com/index.php/courses)

If you have various colleagues who are interested in one of our courses it may be more cost-effective to organise a course at your institute. This can be done as an in-house course or as an open course. With an in-house course, you decide who participates and we charge a fixed fee. Our fee will depend on the country. For an open course, we will require a conference room (plus projector) for about 30 people, and an additional 10 local participants.

Our course material is based on a range of statistical textbooks written by the instructors.
KEYWORDS PER COURSE

Course 1: Data exploration, regression, GLM and GAM: with introduction to R.


Course 2: Introduction to mixed effects models and GLMM

• Introduction to linear mixed effects models. Introduction to GLMM. Dealing with pseudoreplication. Nested data. Longitudinal data. This course can be taught using frequentist tools (nlme, lme4 and glmmTMB) or Bayesian tools (either JAGS or INLA).

Course 3: Introduction to zero-inflated models

• Zero inflated models for count data and continuous data. ZIP and ZAP models. Zero-inflated GLMMs for nested data. Analysis of zero-inflated proportional and binomial data.

• This course can be taught using frequentist tools (pscl and glmmTMB) or Bayesian tools (either JAGS or INLA).

Course 4: Introduction to GAM and GAMM

• Introduction to GAM. Poisson, negative binomial and binomial GAMs. Revision of mixed effects models. GAMM for nested data and non-linear relationships.

• This course can be taught using frequentist tools (mgcv and gamm4) or Bayesian tools (either JAGS or INLA).

Course 5: Introduction to spatial and spatial-temporal models with R-INLA

• Adding spatial and spatial-temporal correlation to regression models, GLMs and GLMMs using R-INLA. Introduction to Bayesian analysis.

Course 6: Time series analysis using R-INLA

• We utilise R-INLA for the analysis of (multivariate) time series within the context of GLMs, GLMMs, GAMs and GAMMs.

Course 7: Workshop and combi-course

• Combine the appropriate modules and use your own data sets during the course.

We also run the following courses: Introduction to R, data visualisation with R, and multivariate analysis with R.
RECOMMENDED ORDER OF COURSES

If you do not have spatial or temporal data, then we recommend to attend the following courses within a time span of 3 years.

1. Introduction to data exploration, regression, GLM and GAM. With introduction to R.
2. Introduction to mixed effects models and GLMM (frequentist version).
3. Depending on whether you have zero-inflation and/or non-linear relationships you can then attend the ‘Introduction to zero-inflated models’ and/or ‘Introduction to GAM and GAMM’ courses (frequentist version).

If you have spatial or temporal data, then we recommend the following courses.

1. Introduction to data exploration, regression, GLM and GAM. With introduction to R.
2. Introduction to mixed effects models and GLMM (INLA version).
3. Introduction to spatial and spatial-temporal models with R-INLA.
4. Depending on whether you have zero-inflation, non-linear relationships and/or time series data, you can then attend the ‘Introduction to zero-inflated models’, ‘Introduction to GAM and GAMM’ and/or the ‘Time series analysis using R-INLA’ courses (INLA version).

It is possible to skip the ‘Introduction to mixed effects models and GLMM’ course before taking the INLA courses, but this requires some preparation.

For more specialised GLMs and GLMMs (without spatial or temporal correlation) we recommend the JAGS version instead of INLA.

Highland Statistics has been teaching applied statistics courses to biologists and environmental scientists for more than 20 years. We teach approximately 25 statistics courses per year, all over the world. Many of our 7000 happy attendees have enrolled in numerous courses.

Our courses are part of various postgraduate and in-house training programmes. Our statistical and biological backgrounds ensure a lively and enjoyable interaction with our participants. One of our strong points is explaining statistics in a non-technical and understandable language.

All courses are non-technical and are taught in R. Each course includes R solution files for a large number of exercises using real data sets.

For further information go to: http://highstat.com/index.php/courses

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