

MARUM / GLOMAR Basic Skills and Methods Course

Statistics - An Introduction to Hypothesis Testing and Parameter Estimation (using R)

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Part 1: 19, 21, 22 January 2016

Part 2: 17 – 19 February 2016

Objectives

Part 1: The course starts with the basic rules of probability, some concepts of descriptive statistics, and a short discussion of the most common probability distributions (binomial, Poisson) and probability density functions (normal, t). The most common tests (t, Fisher-Behrens, ANOVA, Kolmogorov-Smirnov; Zar, 2010) are explained and applied.

Part 2: Parameter estimation (including least-squares) is introduced based in part on Zuur et al. 2007.

It is highly recommended that you have participated in Part 1 in order to follow Part 2!

Prerequisites

Basic knowledge of R is requested.

Target Group

Early career scientists with an interest in hypothesis testing and parameter estimation.

Please note that this course does not cover time series analyses. The latter are covered in a separate MARUM / GLOMAR course.

Please note:

Participants who would like to bring their own laptops may do so but are responsible to make sure that the software is running properly by the beginning of the course.

Instructions for downloading and setting up R are available at <http://www.r-project.org>. Please download & install RStudio as well. R and RStudio are freely available and can be used on PCs and Macs.

During the course, support can only be given for laptops provided by GLOMAR. The main operating system during the course will be Windows.

Location and schedule

MARUM, University of Bremen, Leobener Str., 28359 Bremen, Germany, Room 2070

Part 1	19, 21, 22 January 2016	09.00 – 16.00
Part 2	17 – 19 February 2016	09.00 – 16.00

Literature

Zar, J.H., Biostatistical Analysis, fifth edition, Prentice Hall, 2010.

A good introduction to the frequentist approach to hypothesis testing including data sets and detailed explanations of test procedures; no computer codes provided.

Zuur, A.F., E.N. Ieno, and G.M. Smith, Analysing Ecological Data, Springer, New York, 2007. [Data & R code available: <http://www.highstat.com>]

Registration

To register for this course, please fill in the [registration form](#).

Please note that your registration will be binding.

The registration deadline for this course is **15 December 2015**.

Any enquiries regarding the course should be addressed to glomar-courses@marum.de.