

Biodiversity Committee, Chinese Academy of Sciences (BC-CAS),
Institute of Botany, Chinese Academy of Sciences (IB-CAS)
and Chinese Forest Biodiversity Monitoring Network

Pierre Legendre

Professor, Département de sciences biologiques, Université de Montréal
C.P. 6128, succursale Centre-ville, Montréal, QC, Canada H3C 3J7

E-mail: Pierre.Legendre@umontreal.ca

WWW page for free software: <http://www.bio.umontreal.ca/legendre/>

WWW pages for this course : http://biol09.biol.umontreal.ca/Beijing_Linear_model/

Workshop on

Linear Model

Venue: Institute of Botany, Chinese Academy of Sciences, Beijing

September 10-15, 2009

Day 1

Linear correlation. Simple linear regression

1. Variance, covariance, correlation.
2. Simple linear regression, model I.
3. Model II regression.

Day 2

Permutation tests. Comparison of group means

4. Statistical testing by permutation.
5. Comparison of two samples
6. Model I anova (fixed-effect model), one-way

Day 3

Two-way anova: models I, II and III

7. Nested anova
8. Two-way anova, Model I
9. Two-way anova, Models II and III

Day 4, morningMultiple regression

10. Multiple regression.
11. R-square and adjusted R-square.
12. Variation partitioning.
13. Types of variables in explanatory matrix \mathbf{X} for multiple regression.

Day 5, morningPartial regression, General linear model

14. Partial regression.
15. General linear model.

Day 6, morning

16. Measures of similarity and distance, especially for community composition data.
17. Clustering and partitioning methods.
18. Species associations.

⇒ Afternoons: Practicals about these topics using the R language

- Introduction to the R statistical language (file: Introduction_to_R.pdf)
- Practicals using the R statistical language (file: Practicals_linear_model.pdf)