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Last updated October 3,2015

Introduction to the Course ”DESIGN AND ANALYSIS OF ENVIRONMENTAL MONITORING AND EXPERIMENTS”

Lecture 1

G. Bacaro

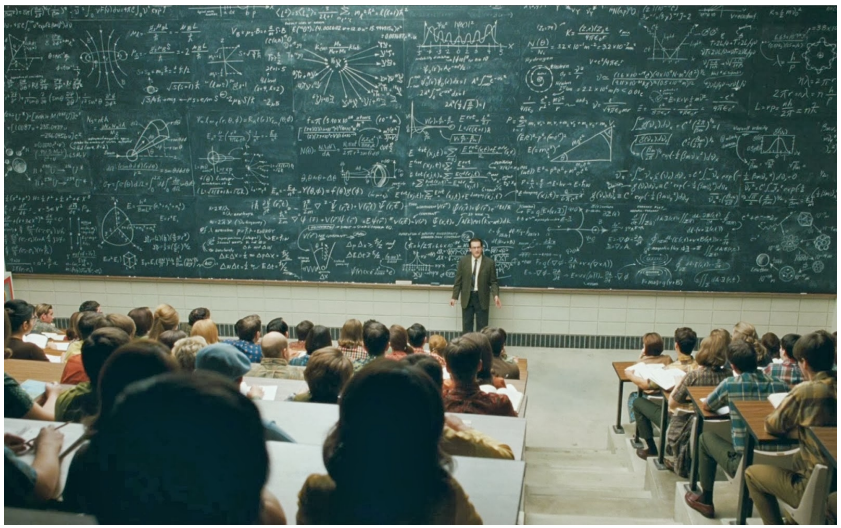
Design and Analysis of Environmental Monitoring and Experiments
Master Degree in Global Change Ecology
I Year, I term

Course Aims

- *The student should be able to plan his/her own environmental survey*;
- The course aims at giving instruments to manage ecological and environmental source of variability;
- The course aims at exploring univariate and multivariate methods useful to detect changes in ecological and environmental conditions

Course Structure

- 6 CFU – 48 hours lectures



Course Program

- Introduction: Sampling design and experimental design.

- "Core": Data collection, types of data, data analysis. Univariate and multivariate methods

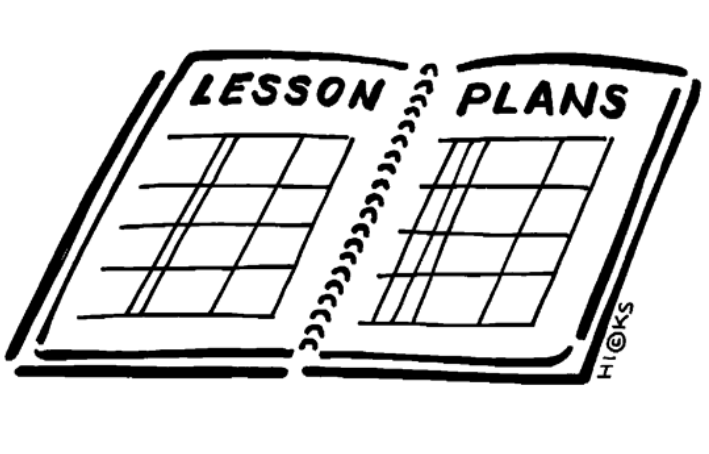
- How to interpret, describe and present results.

Lecture Time Schedule

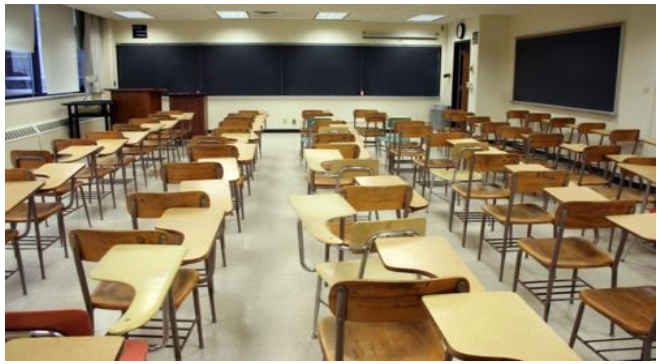
- Days

  Monday 9:00:11:00

  Thursday 14:00›16:00



- CourseEnd \(approx\) - 23December



Exams

- Practical (mandatory)

- Oral

Who's who

Degree in Natural Science

PhD in Science and Technologies applied to the Environment

MobiSIC Project

+ RESILFOR Life+ Project

Root, Vegetation and soil features

Italian EU Presidency Team for the COP 12 preparation

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Other Experiences

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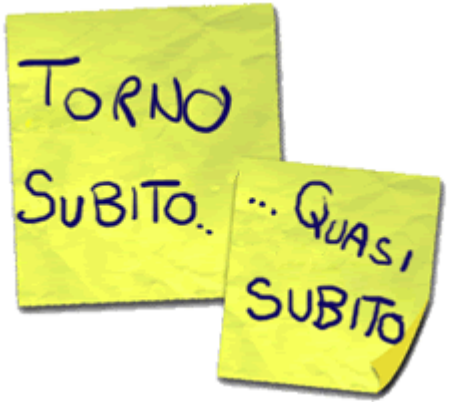
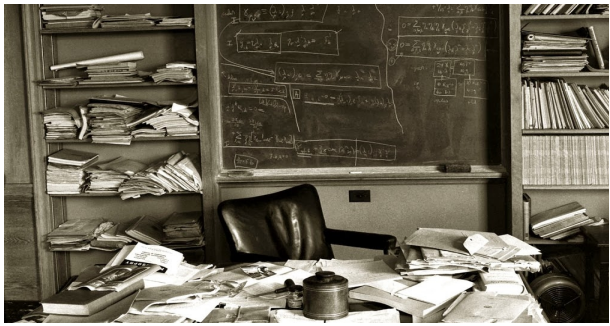
Contacts

- When I'm available to receive s
  -Monday 15:00-17:00
  -Wednesday 15:00-17:00
  -Friday 15:00-17:00
  Or just send me an email and ask.



- Office address:
  Building M, Room B/32
  Phone - 0405588803
  Email - gbacaro@units.it



Software and Lab Activities

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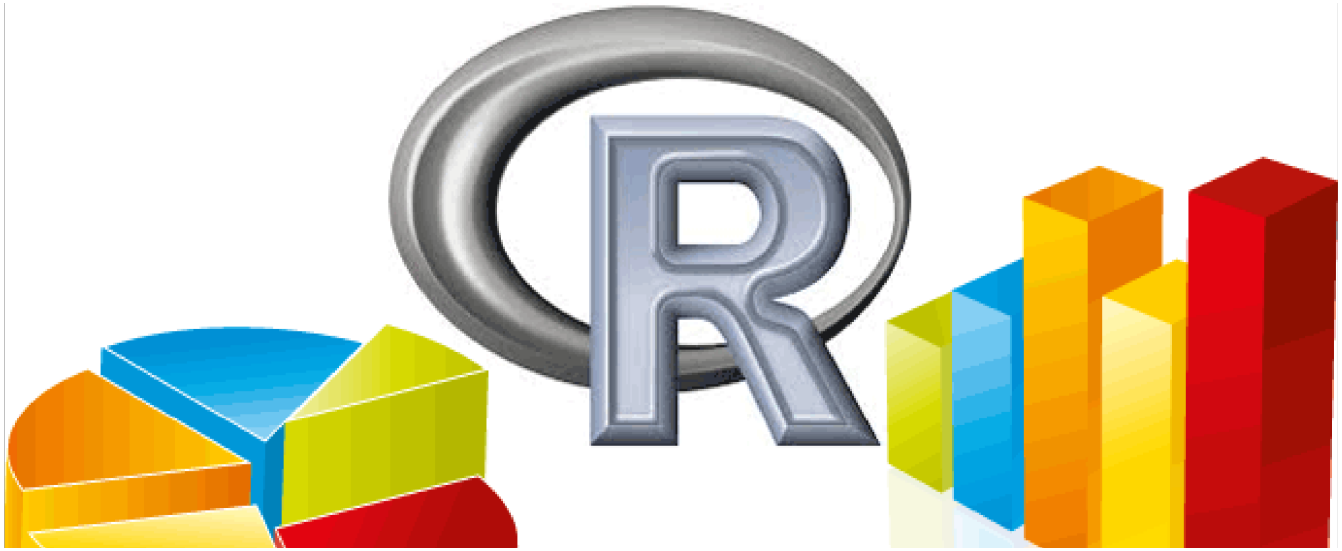

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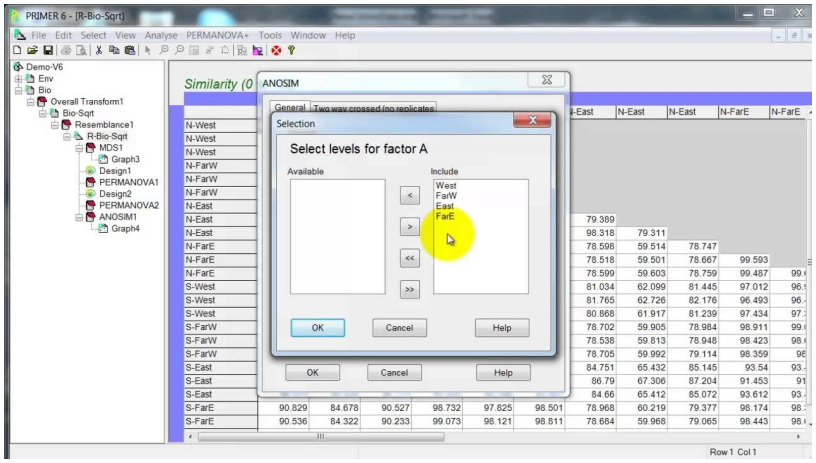

PRIMER-E

Multivariate Statistics for Ecologists

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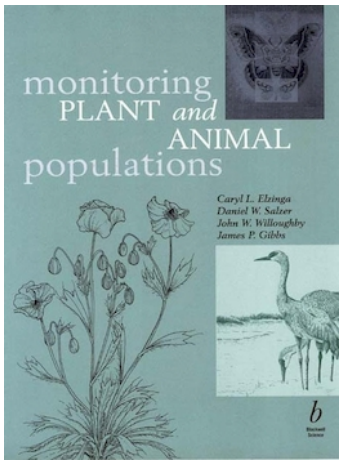
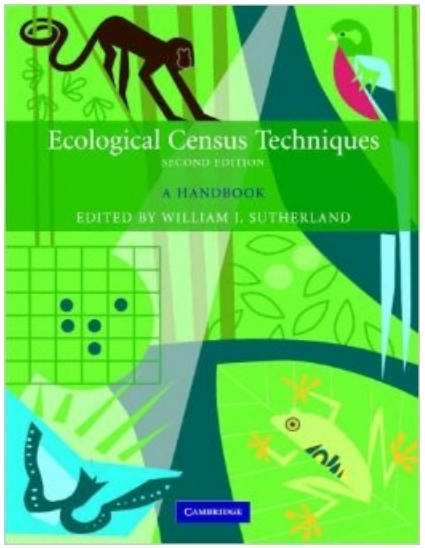
Books and Documentation

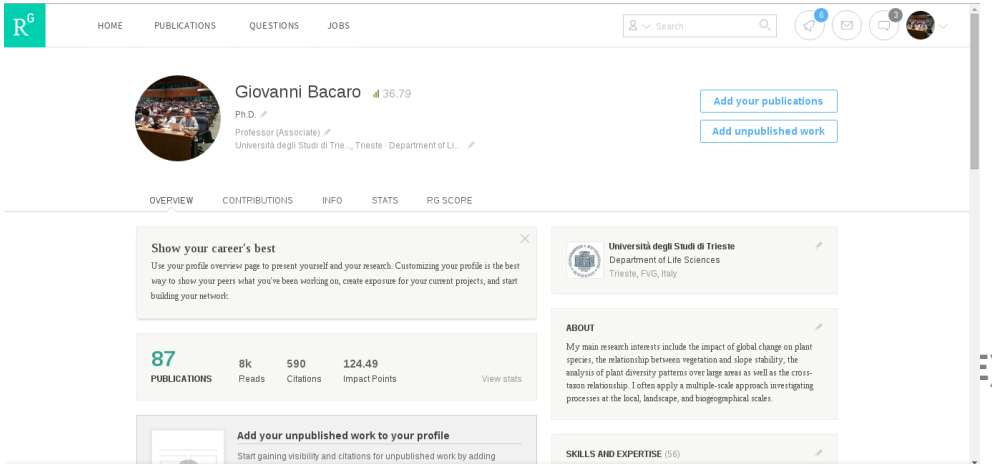


Elzinga et al. (2008). Measuring & monitoring plant populations. Downloadable as pdf



Sutherland (2006). Ecological Census Techniques. Cambridge. 423 pp.

Online Documentation for R and Scientific methodological papers – Please Register yourself to RESEARCHGATE



The Open Source Philosophy

Trends in Ecology & Evolution

Let the four freedoms paradigm apply to ecology

Duccio Rocchini and Markus Neteler

Fondazione Edmund Mach, Research and Innovation Centre, Department of Biodiversity and Molecular Ecology, Via E. Mach 1, 38010 S. Michele all'Adige (TN), Italy

The famous 'four freedoms' expounded by Stallman [1] are: (i) the freedom to run the program for any purpose; (ii) the freedom to study how the program works and adapt it to one's own needs; (iii) the freedom to redistribute copies; and (iv) the freedom to make improvements to the program and release them to the public. Thus, the whole (scientific) community benefits from software development. These freedoms are also inherent in several free software licenses, the GNU General Public License (GPL) being one of the most popular.

Why Open?

L'utilizzo di Software Libero e Gratuito (Free and Open Source Software - FOSS) è l'unico metodo per condividere e produrre una ricerca scientifica ripetibile ed indipendente

Vantaggi nell'uso del Software libero

- accesso totale agli algoritmi di calcolo e possibilità di implementarli;
- Permette di intervenire direttamente sui bug ed apportare migliorie;
- Ampia disponibilità di forum di ricercatori e sviluppatori
- Permette a tutti i ricercatori del mondo di analizzare i propri dati, superando I problemi economici legati alle licenze dei software proprietari;
- Promuove la riproducibilità delle ricerche fornendo strumenti liberi ed accessibili

Open Software and Open Students

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