# An Introduction to R
## Using R–Studio and Biodiversity R with R Commander

Announcing a three day hands-on workshop introducing the R package for statistical computing. This workshop will utilise ecological datasets and the package Biodiversity R which utilised the R Commander graphical user interface (GUI). The workshop is open to all researchers, not just ecologists, who would like to start using R for analysis.

This is also a gentle introduction to R using the popular IDE R Studio and the R Commander GUI. The workshop does not expect you to have any prior experience with R or programming.

Venue & Dates: 5$^{th}$ to 7$^{th}$ February, 2016 at the FERAL Campus.

Maximum capacity: 15 participants. Confirmation only after registration.

Costing: There is no course fee for *full time* students, however all non-resident participants need to contribute ₹2,000/- and residential participants ₹3,000/- to cover costs of materials, logistics and food.

For part-time students/others, course fee is an additional ₹3,000/-.

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## Requirements for the Workshop

Participants must bring their own laptops with the following software pre-installed. Installation notes are at the bottom of this page.

○ R <https://cran.r-project.org/>

○ R Studio <https://www.rstudio.com/>

○ R Commander

○ Biodiversity R <http://www.worldagroforestry.org/resources/databases/tree-diversity-analysis>.

**Please download the tree diversity analysis manual for Biodiversity R. It will be one of the resources used for the workshop.**

## Topics Covered

**Basics of R**

○ R Studio and the R Commander package.

○ Importing data.

○ Basic objects in R.

○ Introductory data manipulation.

○ Basic statistical tests.

○ Linear models.

**Data Visualisation & Analyisis**

○ Plotting data, adding elements to a plot and exporting to graphical formats.

**Biodiversity analysis:**

○ Setting up a dataset.

○ Analysis of diversity and graphical outputs.

### Software installation notes:

1. Download then install the R package from this page <http://ftp.iitm.ac.in/cran/> and R Studio from this page <https://www.rstudio.com/products/rstudio/download/>.

2. Start R Studio (as administrator if necessary). Then go to [Packages] on the bottom right panel and click on [Install]. In the dialogue box that opens type [Rcmdr, BiodiversityR]. Select the [Install dependencies] box and then click on the [Install] button.

3. Once RCmdr is installed, tick the box next to [Rcmdr] (you can type rcmdr in the search box to reach it quickly). If a dialogue box prompts you to install more packages, install them by clicking the [Install] button.