

An Introduction to Statistics for Biologists Using R

This course will concentrate on enabling participants to use R to input data, to summarise it and to carry out some basic statistical analyses and tests.

R is a statistical programming environment which is free and Open Source. Thanks to a large online community of R users and developers, there is little doubt that it is one of the best available statistical packages. Its flexibility, wealth of available packages and graphics capacity are but a few of its notable features.

Participants will also learn to appreciate the rationale behind the methods used.

The Royal Society of Biology and Cardiff Business School are partnering to provide this course again this year, following our previous successful R course.

Course Content

- Data input - formatting and getting data into R
- Types of data - numerical and text-valued data and how statistics and R deals with them
- Graphics and Summary Measures for examining the distribution of data values - typical tools for Exploratory Data Analysis
- Relationships between two variables - Correlations
- Statistical distributions and why they are important for techniques such as sampling
- Hypothesis tests (including the sign, t-, Mann-Whitney and Chi-Squared tests)
- Confidence Intervals
- Combining and Merging Data Sets
- Simple Univariate and Multivariate Models

Find out more from the tutor, about what statistics can do for you and why to use R, [here](#).

Course Tutor

Peter Morgan is reader in quantitative analysis at Cardiff Business School. Originally an industrial chemist, he has a PhD in polymer physical chemistry and worked in magnetic resonance spectroscopy and catalysis before moving into quantitative methods for data analysis. He is co-author of a text on computational methods for the chemical sciences.

He currently teaches quantitative methods in a business context to both undergraduate and postgraduate level with an emphasis on Exploratory Data Analysis and the use of the R statistical environment for tackling data analysis issues. His research interests include sampling methods for price indices, data modelling with neural networks and the analysis of violent assault data. He is a

member of the Centre for Price and Inflation and the Violence and Society Research Group - both at Cardiff University.

Certification and Continuing Professional Development (CPD)

This event has been approved by the Royal Society of Biology for purposes of [CPD](#) and can be counted as 15 CPD points.

A certificate of attendance will be provided after the event.

The learning style of this course will be 'hands on' and interactive, therefore capacity is limited to 18 places which will be allocated on a first-come-first-served basis. There are currently 3 available places remaining on this course.

We evaluate all of our training events, to make sure that we maintain a high quality of training.

Contact

For further information about the course please contact our [training officer](#).

