

Annual Scientific Meeting 2018



One Health and Wellness

9th to 11th
July 2018

Data Science Workshop

Forster Suite, The Midland Hotel, Bradford
8th July 2018

Dr Ben Collins, ETH Zurich & Dr Alistair Bailey, University of Southampton

Highlights include DIA/SWATH, R, Rstudio & the tidyverse

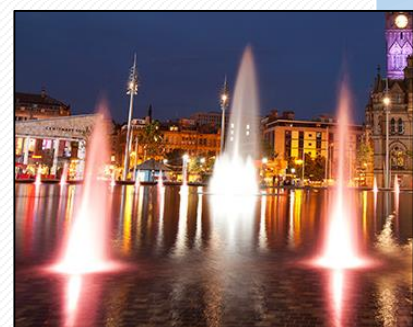
Registration Fee - £10

(payable through the BSPR Annual Scientific Meeting registration portal – see URL link below)

Certificate of attendance provided on completion, full details and requirements are listed below



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One Health and Wellness

Workshop outline

- 14:00 - DIA/Skyline Q&A
- 15:00 - Coffee/tea break
- 15:30 - Data science workshop for proteomics
- 18:00 - Finish

Learning objectives

- Understand and communicate findings from two proteomics datasets
- Use Rstudio to create a project, import and transform data
- Use Rstudio to create heatmaps and volcano plots
- Understand the principles of tidy data and reproducible data analysis

Session information

Session 1

R, Rstudio and the tidyverse
Getting started in R

Session 2

Importing data
Transforming data

Session 3

Visualising data and communication (including heat maps
and volcano plots)

Further information below

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Detailed schedule

1. History, setting up RStudio, principles of reproducible analysis, and introduction to the tidyverse.
2. Using graphs to explore data and answer questions. Workflow basics: assigning objects, R data types.
3. Messy data and tidy data. Using readr, readxl and janitor packages to import data.
4. Transforming data with the dplyr package. Introduction to the key verbs to filter and arrange observations, select variables, create new variables and create grouped summaries.
5. Introduction to the grammar of graphics and the ggplot2 package. Learn to create heatmaps and volcano plots. Learn how to export/use visualisation to communicate your findings and make your analysis reproducible.

Requirements

- Laptop with Rstudio version > 1.14 installed
- R version > 3.4 installed
- tidyverse package installed
- readxl package installed
- janitor package installed

Workshop registration - <https://estore.bradford.ac.uk/product-catalogue/faculty-of-life-sciences/conferencesworkshops/the-british-society-for-proteome-research-annual-scientific-meeting-2018>