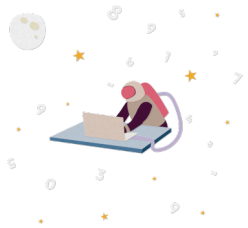
# Reporting with R Markdown

Do you want to dynamically create static or interactive documents? Do you want your reports to automatically update when the data changes? Then this session is for you! R Markdown is easy to use and allows for dynamic report generation. Whether you are hoping to generate HTML, PDF or Microsoft Word like documents, or even slides for a presentation, R Markdown tailors to your needs.



## Course Outline

- **R Markdown**: Creating documents using Markdown
- **{knitr}**: Running dynamic R code
- **{kableExtra} & {DT}**: Embedding tabular data into output documents
- **{bookdown}**: Writing books and long-form reports with R Markdown
- **{flexdashboard}**: Creating interactive dashboards
- **Parameterised reports**: Creating flexible reports
- **Widgets**: Exploring interactive HTML widgets

## Learning Outcomes

**Session 1:**

*By the end of session 1 participants will…*

- understand the benefits of automating reporting
- be familiar with R Markdown
- be able to create a basic R Markdown document
  - output (html, pdf and word)
- have enough knowledge in R Markdown to:
  - implement code blocks
  - explore code block options
  - set YAML instructions
  - be exposed to a few different ways of adding tables to a document, including both static and dynamic tables
    - {DT} package
    - {reactable} package
- be able to embed both plots and images in documents

**Session 2:**

*By the end of session 2 participants will…*

- understand how to render a document to a {bookdown} format, useful both for websites and online books or articles

- be able to create dashboards displaying plots and tables using {flexdashboard}
- be exposed to different methods of creating presentations in R, including HTML, PDF and PowerPoint presentations
- be able to create parameterised reports that allow you to render and re-render a document with different parameters e.g. different reports for different years
- understand best practices when creating R Markdown documents

*This course does not include:*

- An in depth coverage of {ggplot2} and {tidyverse} to manipulate and plot data. See our Data Visualisation with ggplot2 and Data Wrangling with Tidyverse course.

## Attendee Feedback

- "The instructor was certainly standout, exceptionally knowledgable and eloquent in his delivery."
- "The tutor was able to answer and personalise the content relating to our questions/needs"