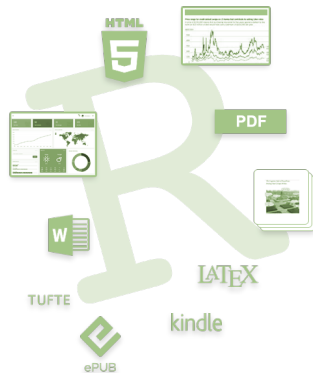# Presentations in RMarkdown

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The power of RMarkdown

We have seen that RMarkdown is an efficient and flexible tool for technical documentation
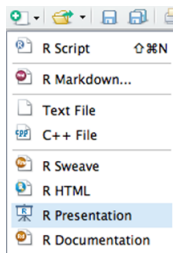
RMarkdown and RStudio

- RStudio houses many tools for creating presentations, reports, web pages, etc.
- Some tools require packages and provide templates

R Presentations

- Default presentations in RStudio
- Written in RMarkdown

Formatting R presentations | Beamer

- LaTeX-based document template for creating slides and presentations
- YAML setting: `output: beamer_presentation`
- YAML settings for `theme`, `colortheme`, `fonttheme`
- Markdown syntax can be mixed with LaTeX

Presentation format: http://rmarkdown.rstudio.com/beamer_presentation_format.html

Customizing Beamer slides: https://kbroman.wordpress.com/2013/10/07/better-looking-latexbeamer-slides

Formatting R presentations | ioslides

- Default format for RMarkdown presentations
- YAML setting: `output: ioslides_presentation`
- Markdown syntax can be mixed with HTML

Presentation format: http://rmarkdown.rstudio.com/ioslides_presentation_format.html
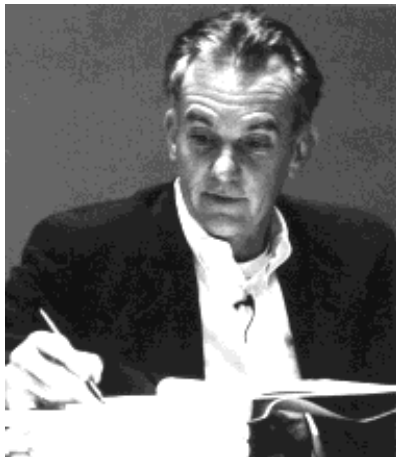
Formatting R presentations | others

- **Slidy**: a HTML-based slideshow
  1. YAML setting: `output: slidy_presentation`
  2. Tutorial/example: https://www.w3.org/Talks/Tools/Slidy2/

- **reveal.js**: the HTML presentation framework, highly customizable
  1. YAML setting: `output: revealjs::revealjs_presentation`
  2. Example: http://lab.hakim.se/reveal-js/

Slidify

- Customizable presentations in R Markdown. HTML-based. Can render presentations in any format.
- http://slidify.org/: 5 min video tutorial
- Example: Slidify: 'Reproducible HTML Slides from R Markdown', http://slidify.org/samples/intro/
- Themes: https://ramnathv.github.io/slidifyExamples/

Tufte-style handouts

- Distinctive style of text with sidenotes

https://www.wired.com/2003/09/ppt2/

Tufte-style handouts

- Tufte Handouts are documents formatted in the style that Edward Tufte uses in his books and handouts
- Tufte's style is known for its extensive use of sidenotes, tight integration of graphics with text, and well-set typography

Figures

Margin Figures

Images and graphics play an integral role in Tufte's work. To place figures or tables in the margin you can use the `fig.margin` knitr chunk option. For example:

```
library(ggplot2)
qplot(Sepal.Length, Petal.Length, data = iris,
    color = Species)
```

Note the use of the `fig.cap` chunk option to provide a figure caption. You can adjust the proportions of figures using the `fig.width` and `fig.height` chunk options. These are specified in inches, and will be automatically scaled down to fit within the handout margin.

Figure 1: Sepal length vs. petal length, colored by species

Equations

You can also include LaTeX equations in the margin by explicitly invoking the `marginfigure` environment.

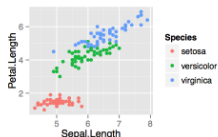$$\frac{d}{dx}\left(\int_0^x f(u)\,du\right) = f(x).$$

Tufte-style handouts

- `tufte` package implements rendering `tufte_handouts`, `tufte_book`, `tufte_html`
- Installed as a template in RStudio once the `tufte` package is installed in R

http://rmarkdown.rstudio.com/tufte_handout_format.html

Xaringan

- An R package with templates for presentations
- Find it here: https://github.com/yihui/xaringan
- See the example: https://slides.yihui.name/xaringan/#1

Interactive reports

- Shiny - a web application framework for R, http://shiny.rstudio.com/
- Presentation format, http://rmarkdown.rstudio.com/authoring_shiny.html
- Generally used for exploratory data analysis

Bookdown

- Authoring Books with R Markdown:
  https://github.com/rstudio/bookdown
- https://bookdown.org/: free books authored with bookdown
- Example: 'Bookdown: Authoring Books with R Markdown',
  https://bookdown.org/yihui/bookdown/

Blogdown

- Authoring web pages with R Markdown:
  https://github.com/rstudio/blogdown
- Read about it here: https://bookdown.org/yihui/blogdown/

Websites | GitHub pages

- A simple way to make a website using Markdown and git, http://rmarkdown.rstudio.com/rmarkdown_websites.html
- GitHub pages hosting, https://pages.github.com/ - quick start on one page
- Example: 'Easy websites with GitHub Pages', http://kbroman.org/simple_site/

Publishing articles

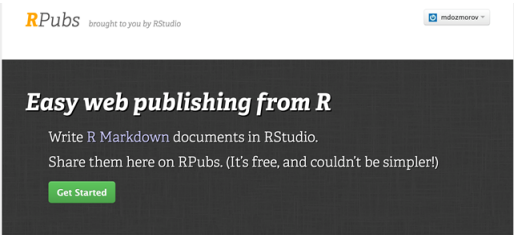- LaTeX Journal Article Templates for R Markdown, https://github.com/rstudio/rticles

PeerJ

open access peer-reviewed scientific mega journal, https://peerj.com/

- Free preprint submission. Judges scientific/methodological rigor. Does not judge the results (may be null), interest or impact

https://github.com/PeerJ/paper-now

RPubs

- http://rpubs.com/: publishing R Markdown reports and presentation on the web
- Everything public
- Example: 'R Cookbook - Chapter 11 - Linear Regression and ANOVA', http://rpubs.com/escott8908/RC11

http://rpubs.com/

- **RPubs.com** is a free service from RStudio that allows you to seamlessly publish the results of your R analyses online
- Make sure your RMarkdown metadata is set to render to HTML rather than PDF. Render the document. Now notice the little **Publish** button in the HTML viewer pane. Click this. Sign in when asked, and give your document a name