

rmarkdown_pdf

Sébastien Renault

2018-09-06

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Different outputs

- There are six versions of this document. We will examine them, one by one:
 - *.Rmd*: The **R markdown** document.
 - *.html*: A Wwbp page as we saw in the previous section. Follow workshop using this version.
 - *rmarkdown_word_pdf2.html*: A **radix** webpage.
 - *.docx*: A MS Word document.
 - *.tex*: A LaTeX document.
 - *.pdf*: A Portable Document Format.

html document

```
---
title: "rmarkdown_pdf"
author: "Sébastien Renault"
date: "2018-09-06"
output:
  html_document:
    toc: yes
    theme: cerulean
---
```

Microsoft Word

```
---
title: "rmarkdown_docx"
author: "Sébastien Renault"
date: "2018-09-06"
output:
```

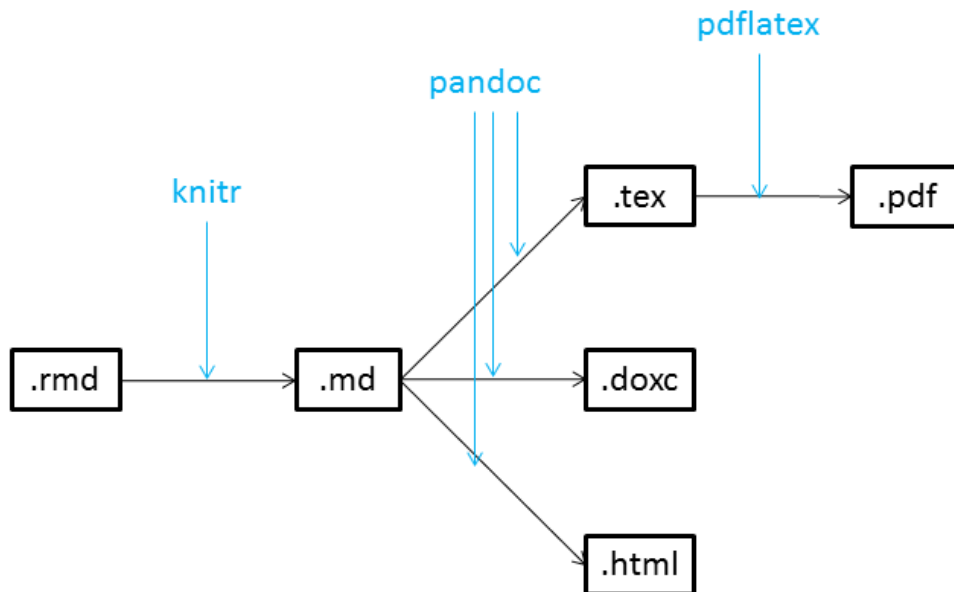
```
word_document:
  toc: yes
```

- You can specify it when you create a new **Rmarkdown** document.
- You can also specify it later in the header.
- Then, it's just a matter of knitting the document!
- Little documentation, few options & configurations are possible (This is probably not the format that should be promoted, as it moves away from an open source environment).
- FYI, there is a spellchecker in **Rstudio**: Edit >Check Spelling...

Portable Document Format (.pdf)

```
title: "rmarkdown_pdf"
author: "Sébastien Renault"
date: '2018-09-06'
output:
  pdf_document:
    keep_tex: true
    toc: yes
```

- You need an extra step to go from a LaTeX (.tex) format to a .pdf. This is handled by the **R markdown** pdf_document function in R.



- LaTeX software is a high-quality typesetting system.
- It is the *de facto* standard for the communication and publication of scientific documents.
- LaTeX is available as free software here.
- If interested, follow this discussion: *Why LaTeX is such a bloated system?*

- So... *TinyTeX* is a custom LaTeX distribution that is small in size (~150MB) but functions well in most cases, especially for R users .
- `tinytex` R package is a wrapper function that installs *TinyTeX*.

Exercise 1


- If you haven't done so, install the `tinytex` R package from the console and run `install_tinytex()`. It may take a few minutes to download and compile (~150MB).

```
install.packages("tinytex")
library(tinytex)
install_tinytex()
```

- Create a new document, compile it as *.pdf*.
 - Add a Table of Content.
 - Add a graphic.
- Now compile it as a Word document (*.docx*)
- Add some reference by specifying the `cs1`: `../cs1/peerj.cs1` and `bibliography`: `../biblio/test_library.bib` in the header

LaTeX template

- This allows further options in the *.Rmd* file when going from *.tex* file to *.pdf*.
- You can build your own *.tex* template if you know LaTeX...
- There are many templates available on the web that you can use.

- Here is one I like for manuscripts (Thanks svmler on )
 - For example, using this (slightly modified) template, I am writing my first *.Rmd* manuscript.

1 A commercial seaweed extract strongly structured 2 microbial communities associated with tomato and 3 pepper roots and significantly increased crop yield

4 Sébastien Renault^{1,2}, Jacynthe Masse^{1,2}, Jeffrey P. Norrie³, Bachar Blal³ Mohamed Hijri^{1,2}

5 ¹Département de Sciences Biologiques, Institut de Recherche en Biologie Végétale, Université de Montréal,
6 4101 Sherbrooke Est, Montreal, H1X 2B2, Quebec, Canada. ²Quebec Centre for Biodiversity Science,
7 Montreal, Quebec, Canada ³Acadian Seaplant Ltd, 30 Brown Avenue, Dartmouth, Nova Scotia, Canada,
8 B3B 1X8

9 Seaweeds have been used as a source of natural fertilizer and biostimulant in agriculture
10 for centuries. However, their effects on soil and crop roots microbiota remain unclear.
11 Here, we used a commercially available *Ascophyllum nodosum* extract (ANE) to test its ef-
12 fect on bacterial and fungal communities of rhizospheric soils and roots of pepper and
13 tomato plants in greenhouse trials. Two independent trials were conducted in a split

- Here is one I like for *Curriculum Vitae*

- For example, using this template, I re-wrote my CV to give it a fresh look!

Sébastien Renaut

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Quebec Centre for Biodiversity Science (QCBS), Montreal, Canada
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Employment

Research Professional, Université de Montréal, Montreal 2014-current

- Provide bioinformatics support and supervise graduate students
- Conduct multi-disciplinary research (microbial ecology, genomics, biodiversity)
- Lead, teach and organize training workshops
- Draft reports and grant applications

Education

Postdoctoral fellow, Biodiversity Research Centre, UBC, Vancouver 2010-2014
(supervisor: Dr Loren Biesecker)

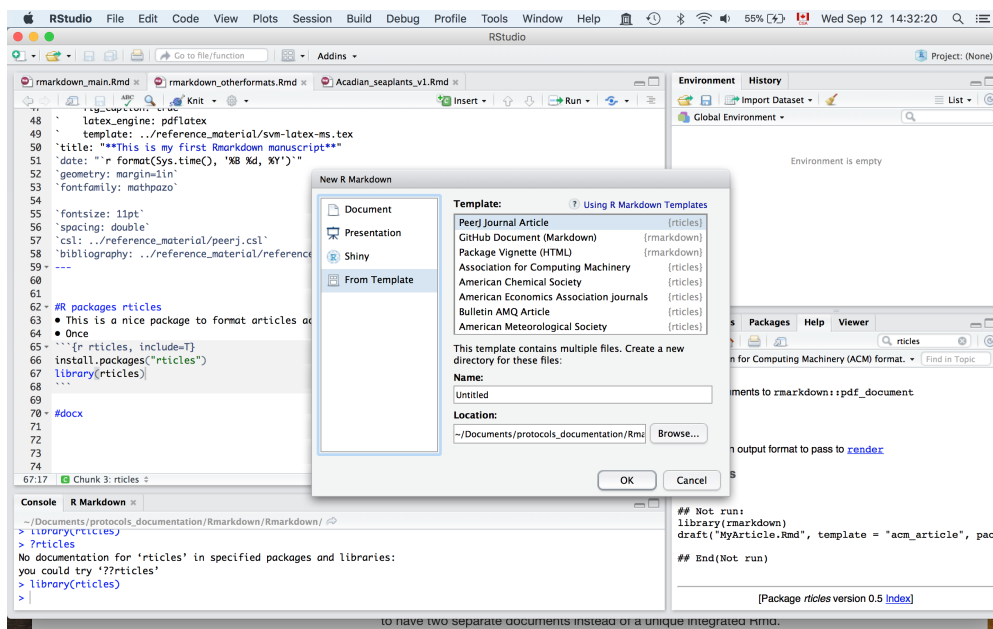
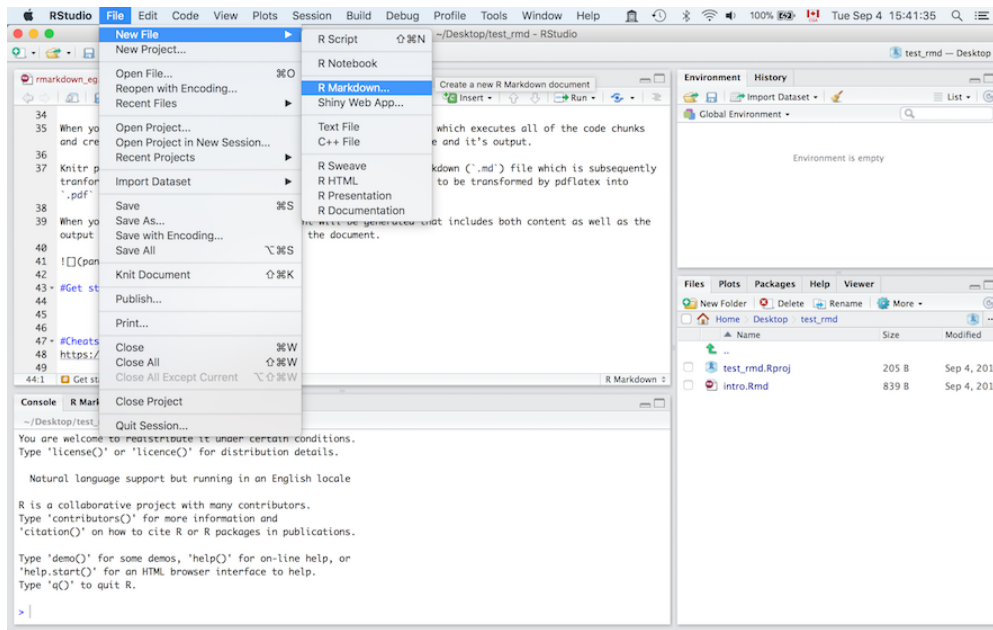
- Download and save template. Refer to it in the header. (Note however that you should download or at least take a look at the *.Rmd* to see options available, and *.pdf* to see output.)

```
---
output:
  pdf_document:
    keep_tex: true
    fig_caption: true
    latex_engine: pdflatex
    template: ../reference_material/svm-latex-ms.tex
title: "**This is my first Rmarkdown manuscript**"
#many more options can go here which will be using by pdflatex.
---
```

- You should know have all the tools to generate your fully reproducible manuscripts in R.
- The only real objection I see in formatting manuscript this way is integrating comments from co-authors who do not use R, R markdown, git or github.

Exercice 2

- R packages `rticles` is (potentially) a nice package to format articles according to the specification of a journal.
- But first, you need to install it in the R console.
- Once installed, try starting a new R markdown document according to your journal of interest.



- Right now, few templates available.
- Some templates may be slower to render (e.g PNAS), depending on what *LaTeX* package they depend on and need to be downloaded.

Other possibilities

Presentations

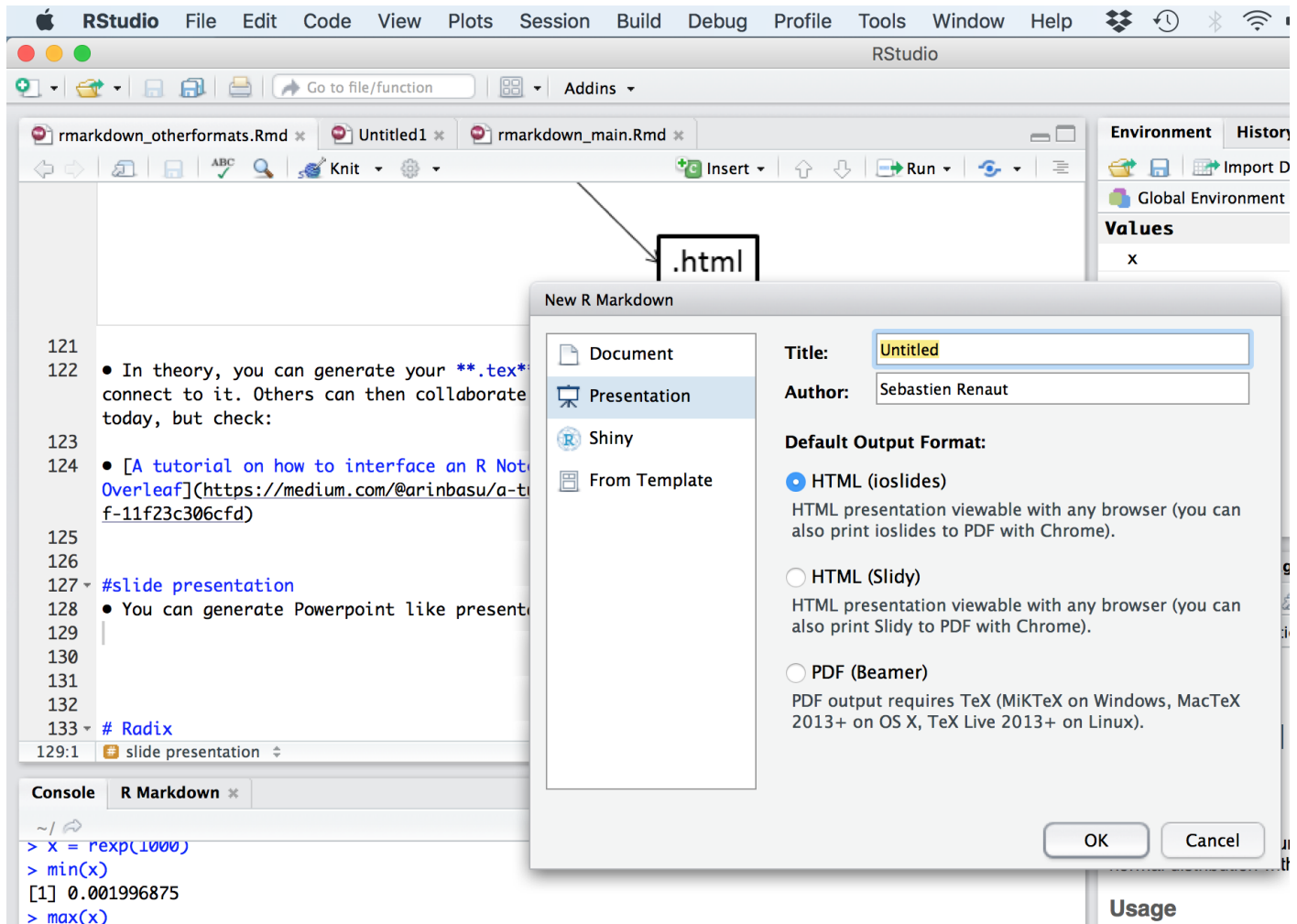
```

---
title: "Untitled"
author: "Sebastien Renaut"

```

```
date: "27/02/2019"
output: ioslides_presentation
---
```

- You can also generate Powerpoint-like presentations.



Overleaf

- Overleaf is an online LaTeX and Rich Text collaborative writing and publishing tool that makes the whole process of writing, editing and publishing scientific documents much quicker and easier.

Secure https://www.overleaf.com/10482893dtnvnxqfmcfs#/39081891/

overleaf PROJECT HISTORY & REVISIONS SHARE PDF SUBMIT TO F1000RESEARCH ?

Source Rich Text Edit Find \$ % B / π Π More Preview Manual Auto warning

```

24 \newcolumntype{R}[1]{>
{\raggedleft\textnewline\arraybackslash\hspace{0pt}m{#1}}
25
26 \usepackage{xcolor}
27 \definecolor{kubblue}{RGB}{0,34,180}
28 \definecolor{kucrimson}{RGB}{232,0,13}
29
30 \usepackage{colorlinks,
31 breaklinks,
32 linkcolor=kucrimson,
33 urlcolor=kucrimson,
34 citecolor=kucrimson,
35 filecolor=kubblue,
36 hyperfootnotes=true,
37 pdfpagelabels}{hyperref}
38
39 \newcommand{\tododg}[1]{\todo[inline, backgroundcolor=violet!40]{dg: #1}}
40 \newcommand{\hligh}[1]{\todo[inline, backgroundcolor=yellow!40]{#1}}
41
42 \begin{document}
43 \title{A multi-disciplinary perspective on emergent and future innovations
44 in peer review}
45 \titlenote{}
46 \author[1]{Jonathan P. Tennant*}
47 \author[2]{Jonathan M. Dugan}
48 \author[3]{Daniel Graziotin}
49 \author[4]{Damien C. Jacques}
50 \author[5]{François Waldner}

```

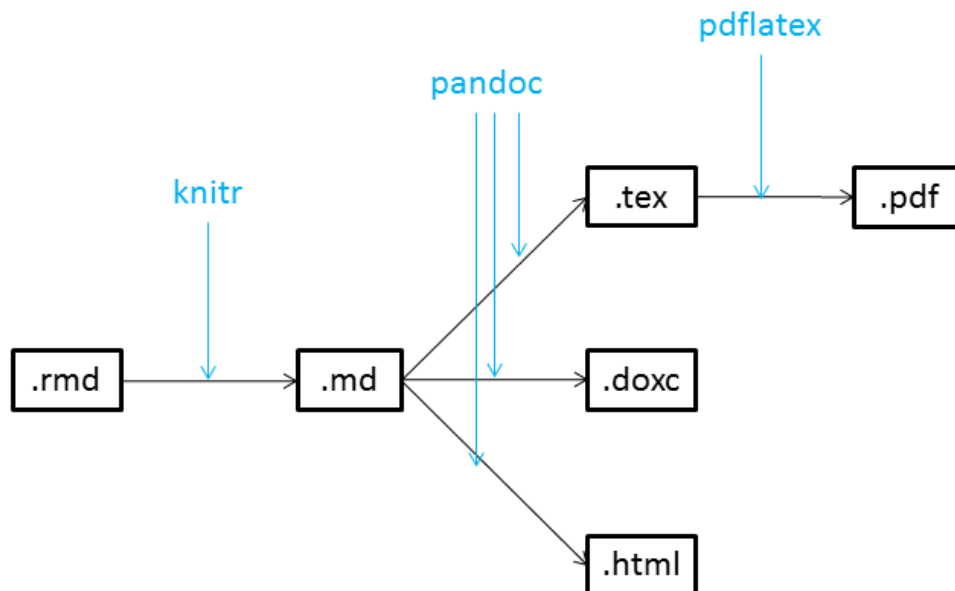
F1000Research 2015, DRAFT ARTICLE (PRE-SUBMISSION)

A multi-disciplinary perspective on emergent and future innovations in peer review

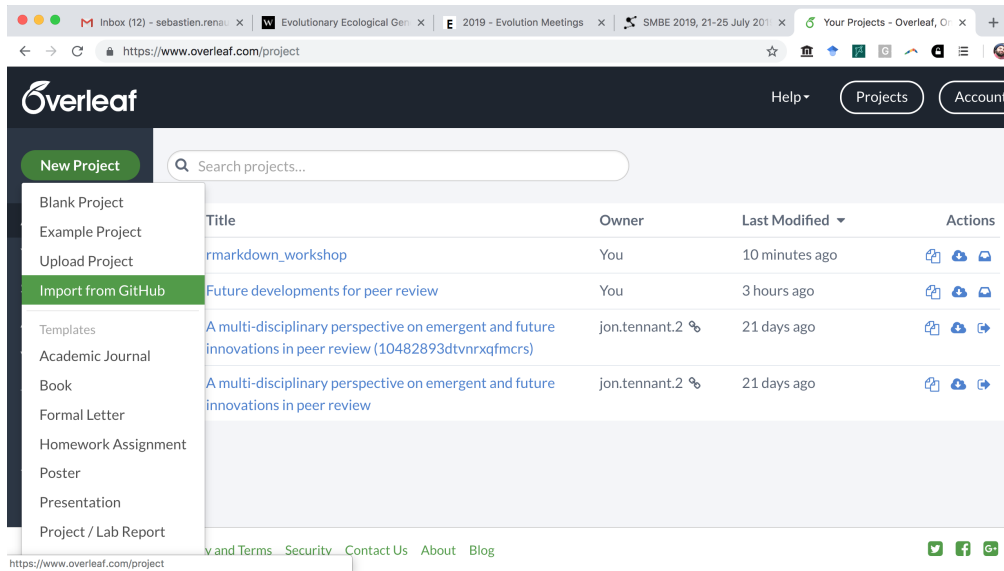
Jonathan P. Tennant¹, Jonathan M. Dugan², Daniel Graziotin³, Damien C. Jacques⁴, François Waldner⁵, Daniel Mietchen⁶, Yehia Elkhatib⁷, Lauren B. Collister⁸, Christina K. Pike⁹, Tom Crick¹⁰, Paola Masuzzo¹¹, Anthony Caravaggi¹², Devin R. Berg¹³, Kyle E. Niemeyer¹⁴, Tony Ross-Hellauer¹⁵, Sara Mannheimer¹⁶, Lillian Rigling¹⁷, Daniel S. Katz¹⁸, Bastian Greshake¹⁹, Josmel Pacheco-Mendoza²⁰, Nazeefa Fatima²¹, Marta Poblet²², Marios Isaakidis²³, Dasapta Erwin Irawan²⁴, Sébastien Renaud²⁵, Christopher R. Madan²⁶, Lisa Matthias²⁷, Jesper Nargaard Kjar²⁸, Daniel Paul O'Donnell²⁹, Cameron Neylon³⁰, Sarah Kearns³¹, Manojkumar Selvaraju³², and Julien Colomb³²

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⁵Total Science Institute, University of Virginia, United States of America, ORCID: 0000-0001-8468-1870
⁶School of Computing and Communications, Lancaster University, Lancaster, UK, ORCID: 0000-0003-4629-430X
⁷University Library System, University of Pittsburgh, Pittsburgh, PA, USA, ORCID: 0000-0001-5707-5486
⁸Johns Hopkins University Applied Physics Laboratory, Laurel, MD, USA, ORCID: 0000-0002-4455-8036
⁹Cardiff Metropolitan University, Cardiff, UK, ORCID: 0000-0001-0106-9369
¹⁰Department of Biochemistry, Ghent University, Ghent, Belgium, VIB-VGent Center for Medical Biotechnology, Ghent, Belgium, ORCID: 0000-0003-3489-1191
¹¹School of Biological, Earth and Environmental Sciences, University College Cork, Distillery Field, N. Mall, Cork, Ireland, ORCID: 0000-0002-1763-8970
¹²Engineering & Technology Department, University of Wisconsin-Stout, Menomonie, WI, USA, ORCID: 0000-0003-1183-3648
¹³School of Mechanical, Industrial, and Manufacturing Engineering, Oregon State University, Corvallis, OR, USA, ORCID: 0000-0003-4435-7097
¹⁴State and University Library, University of Göttingen, Göttingen, Germany, ORCID: 0000-0003-4470-7027
¹⁵Montana State University, Bozeman, Montana, ORCID: 0000-0002-1433-6762
¹⁶Western University Libraries, London, Ontario, Canada, ORCID: 0000-0002-5178-6432
¹⁷National Center for Supercomputing Applications & Department of Computer Science & Department of Electrical and Computer Engineering & School of Information Science, University of Illinois Champagne, Urbana, Illinois, ORCID: 0000-0001-5934-7925
¹⁸Institute of Cell Biology and Neuroinformatics, Goethe University Frankfurt, Frankfurt, Germany, ORCID: 0000-0002-8925-9623
¹⁹Universidade San Ignacio de Loyola, Lima, Peru, ORCID: 0000-0002-2251-8092
²⁰Department of Biology, Faculty of Science, Lund University, Sweden, ORCID: 0000-0001-7799-4866
²¹Graduate School of Business and Law, RMIT University, Melbourne, Australia, ORCID: 0000-0003-020888X
²²Department of Computer Science, University College London, London, UK, ORCID: 0000-0001-6486-1200
²³Department of Geospatial Engineering, Faculty of Earth Science and Technology, Institut Teknologi Bandung, Indonesia, ORCID: 0000-0002-1028-6983

- Remember this:




- You can generate your *.tex* file, upload it to a github repo and Overleaf will connect to it. Others can then collaborate and modify the *.tex* file via overleaf platform.
- Let's take a quick look at overleaf. Once you have an overleaf account, you can connect it to a github repository and *.tex* document. You can then pull/push from overleaf to github, allowing others to modify your *.tex* file.



- A tutorial on how to interface an R Notebook with Overleaf
- How do I connect an Overleaf project with a repo on GitHub, GitLab or BitBucket?

Bookdown

- Bookdown  is an open-source R package that facilitates writing books and long-form articles/reports with R Markdown.

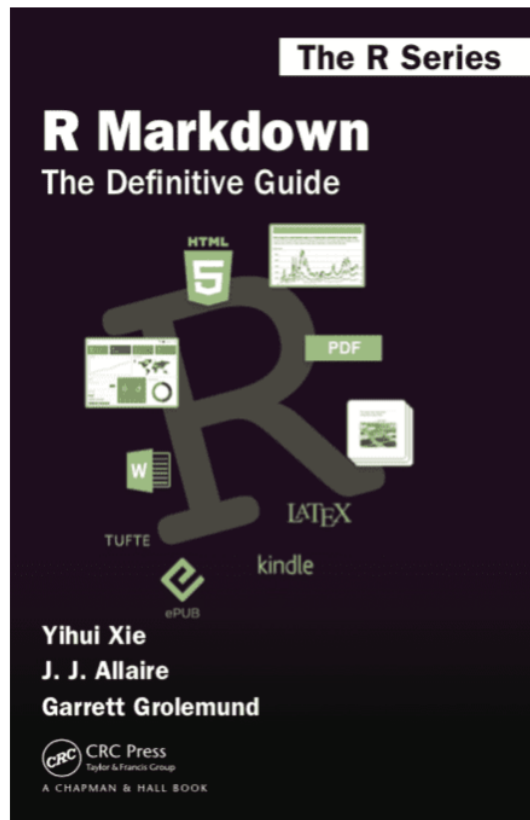
R Markdown: The Definitive Guide

Yihui Xie, J. J. Allaire, Garrett Golemund

2019-01-29

Preface

Note: This book has been published by [Chapman & Hall/CRC](#). The online version of this book is free to read here (thanks to Chapman & Hall/CRC), and licensed under the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#).



Radix

- Radix offers a better look for publishing blog, webpages, adapted to mobile devices.
- Note that in future version, *Radix* is now called *distill*

Radix for R Markdown

JJ Allaire

2018-09-19

Categories: [R Markdown](#) Tags: [rmarkdown](#)

Today we're excited to announce [Radix](#), a new R Markdown format optimized for scientific and technical communication. Features of Radix include:

- Reader-friendly typography that adapts well to mobile devices.
- Flexible [figure layout](#) options (e.g. displaying figures at a larger width than the article text).
- Tools for making articles [easily citeable](#), as well as for generating [Google Scholar](#) compatible citation metadata.
- The ability to incorporate JavaScript and D3-based [interactive visualizations](#).
- A variety of ways to [publish articles](#), including support for publishing sets of articles as a [Radix website](#).
- The ability to [create a blog](#) composed of a collection of Radix articles.

- You will need Rstudio v1.2, `radix` and `leaflet`.

```
install.packages("radix")  
install.packages("leaflet")
```

- Change output in header to:

```
---  
title: "Rmarkdown: radix"  
author: "Sébastien Renaut"  
output: radix::radix_article  
---
```

- Then you can start playing with the `radix` options, such as in this example below (full width figures):

#Note that you may need to set `eval = F` for some formats (pdf, docx) to compile properly

```
```{r radix_example, echo = F, eval = T, layout='l-screen-inset'}  
library(leaflet)
leaflet() %>%
addTiles() %>%
addMarkers(lng=174.768, lat=-36.852,popup="The birthplace of R")
```
```

Exercise 3

- Use a previously generate document to generate a `radix` html output.
- What does it look like? Better?

