

## rOpenSci, Figshare and knitr.

This is a tutorial of how you can create reproducible documents using [knitr](#) and [pandoc](#), and seamlessly upload them to [figshare](#) attaching a citable DOI to them. This document will walk you through the process of creating a document in knitr and uploading a compiled PDF to Figshare. I make the following assumptions about your knowledge:

- You have set-up an account at [Figshare.com](#)
- You have installed [rfigshare](#), the [knitr](#) package and are familiar with the concepts of knitr or sweave, as well as [pandoc](#), for conversion to pdf (although this is only necessary if you want to convert your document to a pdf)
- You have successfully set-up the your credentials for rfigshare. If not go to our [tutorial](#) and make sure your credentials are properly set.

The goal of this document is to demonstrate how one could carry out a project using tools from [rOpenSci](#), knitr, and share the results on figshare in one continuous workflow. To do this I'll be using a tutorial from one of our packages, [treebase](#), which allows you to download trees from [TreebaseWEB](#)

First I'll turn the cache on.

```
opts_chunk$set(cache = TRUE, autodep = TRUE)
dep_auto()
```

Then you'll want to download some data, and maybe make a plot, and say some things about how great your plot is.

```
library(treebase)
tree <- search_treebase("Derryberry", "author")[[1]]
# plotting only part of the tree because it's so large
plot.phylo(tree, y.lim = c(0, 20))
```

Once you've made all your plots, and said all you want to say it's time to convert your document, and then create a new article using `fs_new_article()`

```
library(knitr)
library(rfigshare)
options(FigshareKey = "XXXXXXXX")
options(FigsharePrivateKey = "XXXXXXXX")
options(FigshareToken = "XXXXXXXX")
options(FigsharePrivateKey = "XXXXXXXX")
```

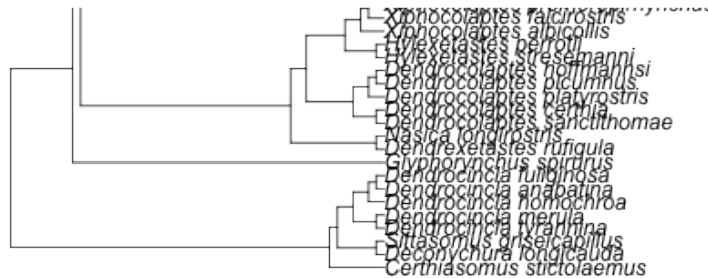


Figure 1: My amazing tree!

```
#knit document to pandoc markdown
knit("rfigtutorial.Rmd")
#convert to pdf
system("pandoc -S rfigtutorial.md -o rfigtutorial.pdf")

id <- fs_new_article(title="An rfigshare tutorial",
  description="How to create a document in knitr and
  upload it to figshare.com",

  type="paper",
  authors=c("Edmund Hart"),
  tags=c("ecology", "openscience"),
  categories="Ecology",
  links="http://emhart.github.com",
  files="rfigtutorial.pdf",
  visibility="draft")
```

The main advantage of this approach is that manuscripts can be worked on from within the R environment and then seamlessly uploaded to figshare. Also it's best practice to store your key values in your `.Rprofile` so I would recommend file Be sure to run `fs_make_public(id)` when you're ready to make your article public.