

# Preparing for the workshop

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## Software setup

You will need a working R environment, either R version 3.4.4 or 3.5. You can find it here:

- Windows: <https://cran.r-project.org/bin/windows/base/>
- MAC: <https://cran.r-project.org/bin/macosx/>
- Linux: type on terminal `sudo apt-get update` and then `sudo apt-get install r-base`

On MAC you will also need to install XQuartz, which you can find at <https://www.xquartz.org/>.

An integrated development environment like Rstudio is useful, you can download it from <https://www.rstudio.com/products/rstudio/download2/#download>

**NB: R version < 3.4.4 might not work, and R version < 3.4 will definitely not work!**

Having installed R, please install all the relevant packages before the course. You can do it by running the following code in R:

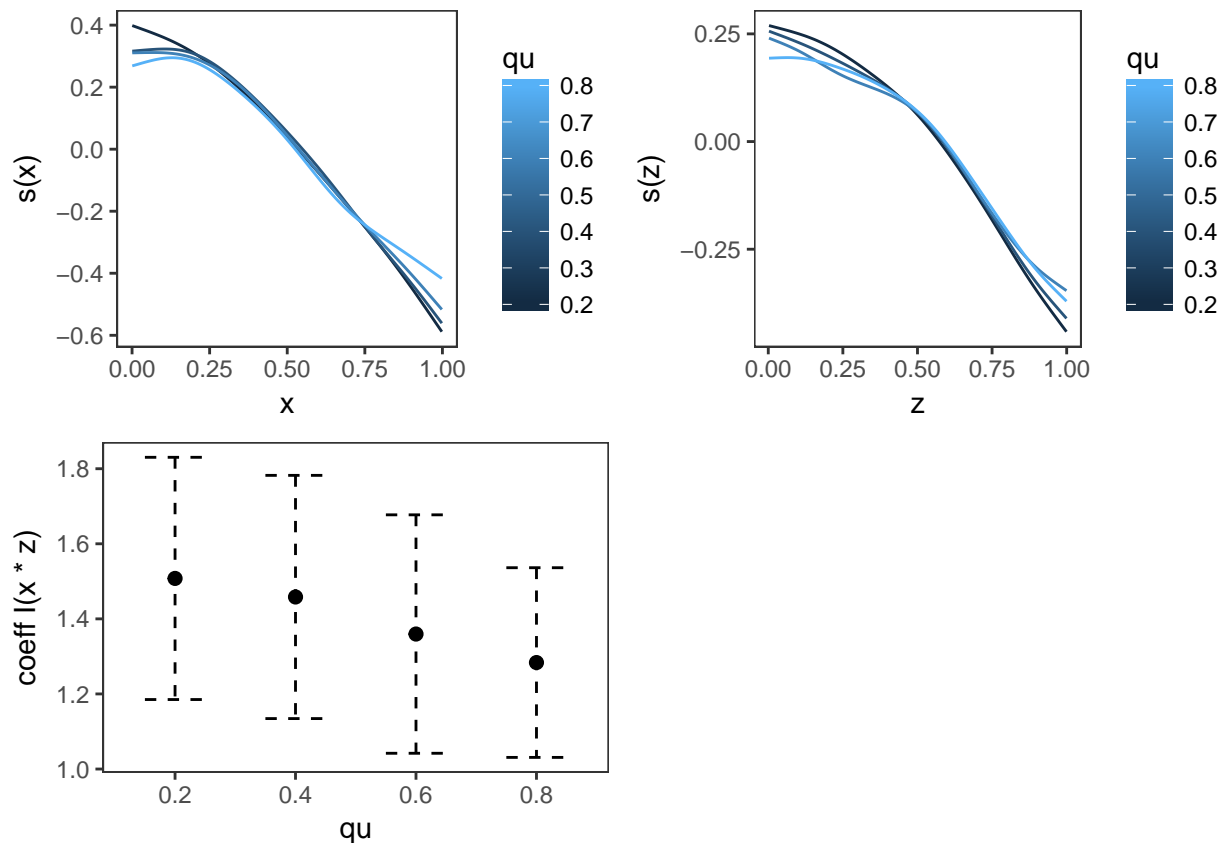
```
install.packages(c("devtools", "qgam")) # NB qgam must be installed before mgcViz!
library(devtools)
install_github("mfasiolo/mgcViz")
install_github("mfasiolo/mgcFam")
install.packages(c("languageR", "gamair", "e1071"))
```

To test whether all is ok with your installation, run the following code in R, which should produce the image below:

```
library(mgcViz)
set.seed(2) ## simulate some data...
dat <- gamSim(2,n=500,dist="normal",scale=0.25)$data

# Fit GAM and get gamViz object
b <- mqgamV(y~s(x) + s(z) + I(x*z), data = dat, qu = c(0.2, 0.4, 0.6, 0.8),
            aQgam = list(argGam = list(select = TRUE)), aViz = list("nsim" = 0))

# Either way, we all effects by doing
print(plot(b, allTerms = TRUE), pages = 1)
```



## Workshop setup

All the material for the workshop is available at [https://github.com/mfasiolo/workshop\\_JGI\\_2018](https://github.com/mfasiolo/workshop_JGI_2018). Use the green button on the right of that page to download a .zip file. Extract the .zip file, open the corresponding folder and enter the “exercises” sub-folder. There you will find two pdf files with the questions.

The solutions are also available in “exercises/Solutions”.

Datasets are available in the “exercises/data” folder. In R you can change your working directory using:

```
directory <- "whereverYouAre/exercises"
setwd(directory)
```

At which point you should be able to load any of the data sets by doing:

```
load(file = "data/oneOfTheDataSets.rda")
```