Preparing for the workshop

Matteo Fasiolo (matteo.fasiolo@bristol.ac.uk)

Software setup

You will need a working R environment, either R version 3.4.4 or above.

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

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:

```r
install.packages(c("devtools", "mgcViz"))
library(devtools)
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. The call to plotRGL should open an interactive x11 window (On Mac it is important that you check that this works - please let me know if it doesn't). The call to plot() should instead produce the image below.

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

b <- qgamV(y ~ s(x, z), data = dat, qu = 0.5)

plotRGL(sm(b, 1), residuals = TRUE)

## Warning in par3d(userMatrix = structure(c(1, 0, 0, 0, 0,
## 0.342020143325668, : font family "sans" not found, using "bitmap"
# 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)
```