**Matrix plot with confidence intervals for r values**

**The Iris data.**  
I like this way of plotting bivariate data, where histograms of the variables are given, and for the bivariate plots correlations with their 95% confidence intervals are displayed. The plots have LOESS curves.

**Here is the R code:**  
  
## put histograms on the diagonal  
panel.hist <- function(x, ...)  
{  
    usr <- par("usr"); on.exit(par(usr))  
    par(usr = c(usr[1:2], 0, 1.5) )  
    h <- hist(x, plot = FALSE)  
    breaks <- h$breaks; nB <- length(breaks)  
    y <- h$counts; y <- y/max(y)  
rect(breaks[-nB], 0, breaks[-1], y, col="lavender", ...)  
}  
## put correlations & 95% CIs on the upper panels,  
panel.cor <- function(x, y, digits=2, prefix="", cex.cor, ...)  
{  
    usr <- par("usr"); on.exit(par(usr))  
    par(usr = c(0, 1, 0, 1))  
    r <- cor(x, y,use="complete.obs")  
    txt <- format(c(r, 0.123456789), digits=digits)[1]  
    prefix <- "r = "  
    rc <- cor.test(x,y)  
    rci <- rc$conf.int  
    txt2 <- format(c(rci, 0.123456789), digits=digits)[1]  
    txt3 <- format(c(rci, 0.123456789), digits=digits)[2]  
    prefix2 <- "\nCI = "  
    txt <- paste(prefix, txt, prefix2, txt2, ", ", txt3, sep="")  
    if(missing(cex.cor)) cex.cor <- 0.8/strwidth(txt)  
    text(0.5, 0.5, txt, cex = 1)  
}  
pairs(iris[1:4], lower.panel=panel.smooth, cex = .8, pch = 21, bg="steelblue",  
       diag.panel=panel.hist, cex.labels = 1.2, font.labels=2, upper.panel=panel.cor)