**Applied population analysis**

**Introduction to Bayesian analysis**

**Coding challenge**

Bayesian analyses are a rapidly-growing set of tools used for population analysis, and as usual, there are a tremendous number of good resources out there to read/explore. However, today we will be basing our exercises on those in Chapter 3 of the excellent book by

To carry out today’s coding challenge, you will need to install JAGS (or WinBUGS, your choice, but pay attention to the jags() vs. bugs() functions and their slight differences). Instructions for downloading and installing JAGS are available on the course website. You will also need to install the jagsUI package (<https://cran.r-project.org/web/packages/jagsUI/jagsUI.pdf> ).

Please get as far as you can in exercises 1-4 in Chapter 3 (available at the course website). You should feel free to use the solutions file, below, to make progress and better understand what is happening. Reading the entirety of Chapter 3 is also strongly recommended. The extras from the book are available here, including appendices, exercises, solutions, etc. <http://www.vogelwarte.ch/de/projekte/publikationen/bpa/>

Solutions here: <http://www.vogelwarte.ch/de/projekte/publikationen/bpa/solutions-to-exercises>. Note: these solutions are written to use WinBUGS, whereas I prefer JAGs and use the jagsUI package in R. the function bugs() is used here, but can be easily replaced with the function jags(), although you will need to remove the arguments debug = TRUE, bugs.directory = bugs.dir, working.directory = getwd(), as jags does not take these arguments.

Also, interesting exercise on right-censored data in JAGS/R here, just FYI, including link to code: <http://doingbayesiandataanalysis.blogspot.com/2012/01/complete-example-of-right-censoring-in.html>