**Module: Introduction to non-Gaussian traits: count, binary and proportion data**

**Goal:** to understand what kinds of traits are, what is often referred to as, ‘non-Gaussian’, how they are different from Gaussian (normally distributed) traits and how they can be modeled using the ‘generalized’ linear mixed-effects model (GLMM) framework.

***Step 1: XXX***

**Sub-goal:**

**Introduction:**

**Exercise:**

***Step 2: Introduction to Bernoulli, binomial and Poisson distributions***

**Sub-goal:**  to learn statistical properties of the three key non-Gaussian distributions and to understand the concept of the mean-variance relationship and

**Introduction:**

**Exercise:**

Mean variance relationship

Overdispersion

***Step 3: Introduction to generalized linear mixed-effect models (GLMMs)***

**Sub-goal:** to understand the idea of the link and inverse link function and overdispersion and how (dis)similar it is to model Gaussian and non-Gaussian traits

**Introduction:**

**Exercise:**

Inverse