Wells Burrell & Graeme Vissers

Normal Distribution

What is the question you came up with for this scenario?

* **Assessing Two Bacterial Transformation Protocols.** A rotation student wants to improve a transformation protocol that has been passed down in the lab. They create 10 plates of transformed e. coli using the old protocol and 10 plates using a new protocol found online. Is one protocol more efficient than the other? The student will determine the total number of transformed colonies on each plate and compare the mean number of colonies between the two protocols using a two sample, two tailed t-test.

More generally, what kind of problem is the function typically used for?

* Estimating population parameters (mean, SD) from samples found in nature. Typical application is t-test for comparing population means.

How is the distribution parameterized?

* Mean and SD

What do the PDF and CDF represent, in general terms?

* PDF: probability of observing a given mean from a random sample.

CDF: probability of observing a range of means given a random sample.

What do the PDF and CDF for this distribution look like, generally speaking?

* PDF: classic bell curve. CDF: s-shape.

How does changing parameter values affect the probability distribution?

* Changing mean (u) affects the distributions location along the x-axis; changing SD affects the distribution width/spread.

What is one other distribution that relates to your distribution(s)?

* Binomial distribution when prob ~ 0.5 and when n is fairly large, Normal is a good approx..

