# Generating Random Matrices

BIOS 524 Project

Brett Kliner

Abigail Robinson

# Goals of Project

- To use simulation to create a random vector X, where X~N($\underline{\mu}$, $\underline{\Sigma}$).
- To simulate the probability that W >= w, where W is a scalar generated from the X matrix.
  - W is generated from the mean vector, μ.
  - W is generated fro the a k x 1 zero vector.

# Applications

- This exercise is mostly academic with uses in matrix algorithms and general linear models.
- Hypothesis testing that the mean vector is equal to the zero vector.
- This will be useful in Dr. Johnson’s General Linear Models class next semester.