

## **Mr. Luke Mazur**

Centre for Bioinformatics and Biometrics (CBB)  
National Institute for Applied Statistics Research Australia (NIASRA)  
School of Mathematics and Applied Statistics  
University of Wollongong

### **Title:**

## **Equivalence of Cholesky Factorization and Absorption**

### **Abstract:**

This is an expository talk that demonstrates that absorption can be achieved through the use of a Cholesky factorization algorithm and a number of computationally inexpensive adjustments. Further, it can be shown that this holds true for Symmetric Positive Semi-Definite (SPSD) and so absorption is actually the first extension of Cholesky factorization to SPSP matrices.

The key application is to ASREML, a program used for fitting linear mixed models, particularly useful in the animal and plant breeding industries.