

**School of Mathematics and Applied Statistics**  
**2014 Colloquium Series**

**Title:** A one-compartment model for body cooling and a method for estimating the time of death based only on temperature readings

**Speaker** Marianito Rodrigo (University of Wollongong)

**Time and Date:** 3:30pm, Friday, 24 January 2014

**Location:** 6-210

**Abstract:** Estimation of the time of death is a fundamental problem in the forensic sciences. One popular estimation method is by body cooling. In this talk, we propose a one-compartment model for body cooling, where the compartment is the rectum. The well-known Marshall-Hoare model is obtained as a particular case. Moreover, using the Laplace transform, we give a method for estimating the time of death from temperature readings only. We present the results of numerical simulations to test the accuracy of the proposed method.