



## Statistics and Actuarial Science Seminar

**Title:** Mortality improvements, excess mortality, and socio-economic differentials: Evidence from England 2001-2022

**Speaker:** Ayse Arik (University of New South Wales)

**Date:** Thu 8th January 2026 at 3:00PM

**Location:** E0.32 (beside Pi restaurant)

**Abstract:** In this article, we examine post-pandemic mortality trends across different socio-economic groups in England. Using age-period decomposition techniques, we quantify the contributions of 26 causes of death – classified into seven broad groups (circulatory diseases, neoplasms, respiratory diseases, digestive system diseases, external causes, other causes, and COVID-19) – to changes in all-cause mortality improvements and excess mortality. Our analysis is based on a nation-level data stratified by single year of age, sex, and Index of Multiple Deprivation (IMD) deciles over the period 2001-2022. A key contribution of this study is the development of a modelling framework that produces interpretable cause- and deprivation-specific mortality trends, while also establishing the link between excess mortality and mortality improvement rates. Our results provide insights into the persistence of excess mortality and the extent to which socio-economic disparities shape future mortality risks.