



Probability Seminar

Title: On the Universality of Pearson's Empirical Rule

Speaker: Andrew Smith (UCD)

Date: Wed 10th September 2025 at 2:00PM

Location: E0.32 (beside Pi restaurant)

Abstract: In 1894, Karl Pearson proposed his empirical rule that the median of a distribution lies about one third the way from the mean towards the mode. Pearson's rule was based on calculations for the Gamma distribution, but has since been found to hold in a wide range of circumstances. Weibull's distribution family, for certain parameter values, provides counterexamples in which the median lies below both the mean and the mode.

This paper extends Pearson's rule to other location attributes, considers more general limiting regimes, investigates higher order terms and rehabilitates Weibull's distribution as conforming to an extension of Pearson's rule.