

Leslie Comrie Seminar Series 2023/24

A data scientific perspective on number theory

Wednesday 1 November 2023, 15:00-16:00

Speaker: Dr Tim Oliver, University of Westminster

Abstract:

Though traditionally considered “pure” mathematics, number theory has a strong tradition of experimentation. For example, in the 1790s, Legendre and Gauss, discovered what would become known as the prime number theorem through analysing tables of logarithms, and, in the 1960s, Birch and Swinnerton-Dyer formulated their eponymous conjecture after numerical exploration utilising an early computer. In this talk, I will overview implementations of supervised and unsupervised learning methodologies in the context of number theory. A highlight is the so-called “murmurations” phenomenon, which is manifest as a striking (and entirely unexpected) oscillating pattern.