TRENT UNIVERSITY

PHYSICS & ASTRONOMY SEMINAR SERIES

Dr. Ed Taylor

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Wednesday, November 12, 2025
11:00 a.m. to 11:50 a.m. in ENW 115

Cancer as a condensed matter physics problem

Abstract:

Cancer represents a complex system of interacting degrees of freedom that compete with the host system for a limited supply of diffusible nutrients. The spatial distribution of cancer cells, their growth rate, metastatic potential, and metabolic programming all evolve in time to optimise nutrient utilisation and growth. In this talk, I will show how concepts borrowed from condensed matter physics can shed insight into these factors, leading to models that may be able to predict the response of individual tumours to treatments, using magnetic resonance imaging to determine patient-specific parameters.