

Mathematics & Statistics Colloquium

Friday, February 12, 2021, 4:15pm-5:15pm Zoom Meeting ID: 941 6389 5998 Password (if prompted): 371814



Ross Willard

Professor Department of Pure Mathematics University of Waterloo

Universal algebra at a crossroads

Abstract. For most of its history, universal algebraists have mainly viewed their work as a highly abstract generalization of more concrete disciplines within algebra, not motivated or constrained by the need to be "relevant." About 25 years ago, this lovely situation was upended when it was discovered that universal algebra contained the key to attacking a conjecture about the algorithmic complexity of (directed) graph homomorphism problems. Since then, work in universal algebra has become increasingly focussed on serving the needs of this niche area in theoretical computer science. In this lecture I will gently introduce viewers to this story and speculate on where universal algebra goes from here.

Biographical Sketch. Ross earned his PhD in 1989 at U. Waterloo under Stanley Burris. His first faculty position was at Carnegie Mellon University (1989-92); he then returned to Waterloo where he has been ever since. His research interests are in universal algebra, logic, and constraint satisfaction.