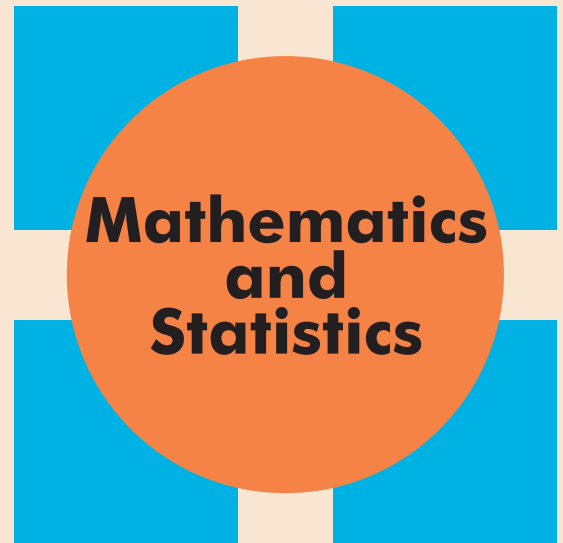


PRAIRIE MATHEMATICS COLLOQUIUM

Chris Duffy

University of Saskatchewan

Oriented Graph Colouring - Questions and Answers (but mostly questions)



Date: **Thursday** February 4, 2021

Time: Social tea break at 2:00 PM, talk at 2:30 PM

Zoom link:

<https://uregina-ca.zoom.us/j/99141945177?pwd=MXFxOE92OUx4TnJuZUNEVXpqUWVQZz09>

Abstract: The simplicity in the standard definition of graph colouring belies an algebraic interpretation as a homomorphism. This interpretation can be exploited to provide a definition of graph colouring for oriented graphs that, in some sense, respects the orientations of the arcs. In this talk we'll see how our intuition helps us and hinders us when we explore well-trodden graph colouring territory for oriented graph colouring. In particular, we'll see how oriented versions of Brooks' Theorem, the Four-Colour Theorem and Chromatic Polynomials give rise to unexpected results when recast in the context of oriented graphs.

This event is supported by PIMS.

University
of Regina



Pacific Institute *for the*
Mathematical Sciences