PRAIRIE MATHEMATICS COLLOQUIUM

Chris Duffy
University of Saskatchewan

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

Mathematics and Statistics

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