

PIMS Distinguished Lecture Series

Mathematics
and
Statistics

Joy Morris University of Lethbridge

**Friday
February 6, 2026**

3:30 PM

**Research and
Innovation Centre
Room 209
and On Zoom**



Intuition in Abstract Algebra: How can we visualize groups?

Although we often introduce group theory to students using groups of symmetries, we tend to move quickly away from these intuitive representations into the realm of axioms and deductions. There are plenty of good reasons for this, not least of which is that the objects or pictures we study the symmetries of, often fail to give us effective intuition about basic properties of the symmetry group.

I will discuss research on representing groups as groups of symmetries of some basic combinatorial structures (graphs, directed graphs, graphs with special properties, posets, etc.) and how this approach can provide improved intuitive understanding of the group.

I will also discuss research on asymptotic results about symmetries of combinatorial objects. The overall lesson of this aspect of the research is that not only is symmetry rare, but even when some amount of symmetry is required or imposed, it is rare for additional symmetry to arise spontaneously.

Register in Advance for Zoom Link at:

https://uregina-ca.zoom.us/meeting/register/zv13A-dNTRyawv_rohLA6g