

RYERSON UNIVERSITY  
DEPARTMENT OF MATHEMATICS  
COLLOQUIUM

**Dr. Luke Postle**

Department of Combinatorics & Optimization, University of Waterloo

Date: Thursday, November 28, 2019

Time: 12:10 pm

Location: ENG-LG12

**Linear-Time and Efficient Distributed  
Algorithms for List-Coloring Graphs on  
Surfaces**

**Abstract:** We develop the first linear-time and polylogarithmic-round distributed algorithms for 5-list-coloring planar graphs and for 3-list-coloring planar graphs of girth at least five. The algorithm also extends to finding such colorings of graphs embedded in surfaces if they exist. The key ingredients are a new structure theorem for planar graphs combined with the extensive theory of hyperbolic families of graphs on surfaces.

ALL FACULTY, STAFF, STUDENTS AND GUESTS ARE WELCOME TO ATTEND