

# Diversity in the Mathematical Sciences 2024

Dalhousie University  
Halifax, Nova Scotia, Canada  
July 29 – August 2, 2024

## Synopsis

The main tools to study zero sets of polynomials using algebraic tools come from Commutative Algebra. When the polynomials have only one term - monomials - one can use methods from combinatorics, topology, linear programming and more to study their algebraic properties. The development of such techniques, going back to the 1960's and still a vibrant area of research today, is the focus of the field of Combinatorial Commutative Algebra.

Our school will introduce some of these ideas to the participants via concrete examples and problems. We will cover topics including edge ideals of graphs, Hilbert functions, computational commutative algebra and discrete homotopy theory.

The school will also include panels, discussions of graduate school, academic and nonacademic jobs and issues facing women in mathematics in general. We will have morning lectures, afternoon tutorials and mini topics.

## Eligibility

We are seeking applications from female and female-identifying students who have finished at least two years of an undergraduate degree in the mathematical sciences. Applicants having successfully completed an Honour's-level proof-based course in linear algebra will be given full consideration. A third-year course in algebra covering rings and ideals will be considered an asset.

**Application Deadline**  
March 30, 2024



Credit: Great Earth Expeditions

## Meet our Organizers



**Susan Cooper**  
University of Manitoba



**Sara Faridi**  
Dalhousie University

## Meet our Instructors



**Nasrin Altafi**  
Queen's University



**Selvi Kara**  
Bryn Mawr College



**Sarah Mayes-Tang**  
University of Toronto



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