

# STUDENT SEMINAR

## ELCHIN HASANALIZADE PHD CANDIDATE (MATH)

MATHEMATICS & COMPUTER SCIENCE  
UNIVERSITY OF LETHBRIDGE

**Title:** Linear Algebra Methods in Combinatorics

**Abstract:**

Linear algebra methods are some of the most beautiful and powerful techniques in combinatorics. One of the basic techniques is the dimension argument. The method can be described as follows. If we want to come up with an upper bound on the size of a set of objects, associate them with elements in a vector space  $V$  of relatively low dimension, and show that these elements are linearly independent; hence we cannot have more objects in our set than the dimension of  $V$ . This simple idea is surprisingly powerful. In this talk we will discuss three applications which are accessible to good undergraduate students.

**WHEN**  
**FRIDAY, JAN 31**  
**12:00—12:50**

**WHERE**  
**D634**

**WHO**  
**ANYONE WHO'S**  
**INTERESTED**

**REFRESHMENTS**  
**DONUTS**



Pacific Institute *for the*  
Mathematical Sciences

MATHEMATICS AND COMPUTER SCIENCE

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