The Department of Mathematics presents
A Mathematics Colloquium
November 3, 4:00–4:50pm
Bond Hall 217

Speaker: Josh Zhal (UBC)
Title: Trilinear and linear Kakeya-type bounds in $\mathbb{R}^4$

Abstract: A Besicovich set is a compact subset of $\mathbb{R}^d$ that contains a unit line segment pointing in every direction. The Kakeya conjecture asserts that every Besicovich set in $\mathbb{R}^d$ must have dimension $d$. I will discuss some new trilinear Kakeya-type bounds in $\mathbb{R}^4$, and how these bounds can be used to obtain improved bounds on the dimension of certain sets in $\mathbb{R}^4$ that resemble Kakeya sets. This is joint work with Larry Guth.

Refreshments provided by Prof. Berget