PIMS Distinguished Speakers Series

KAROLY BEZDEK

Professor and Canada Research Chair (Tier 1)
University of Calgary

Title: The Kneser-Poulsen conjecture for uniform contractions

Abstract:

The Kneser–Poulsen Conjecture (1955) states that if the centers of a family of N congruent balls in Euclidean d-space are contracted, then the volume of the intersection does not decrease. In the first half of my talk I will give a brief summary of the status of this long-standing conjecture in geometry. In the second half of my talk I will discuss the following latest development. A uniform contraction is a contraction where all the pairwise distances in the first set of centers are larger than all the pairwise distances in the second set of centers. I will present a proof of the Kneser-Poulsen conjecture for uniform contractions whenever N is sufficiently large (depending only on d) in Euclidean, spherical as well as hyperbolic d-space for all d>1. The method of proof is centered around a Blaschke-Santalo type inequality for dual bodies.

Bio:
Ph.D. (1980) Eötvös Loránd University, Budapest (Hungary)
Faculty at Eotvos Lorand University (1978-2006) and Chair of the Department of Geometry (1999-2006
Visiting Professor at Cornell University (1985-2003)
Director of the Center for Computational and Discrete Geometry at U. of Calgary since 2006

Awards:
Tóth Prize (2015), Research Excellence Award of U. of Calgary (2017)

Research Interests: combinatorial, computational, convex and discrete geometry

Tuesday – November 7, 2017
1:40—2:55 pm
UHall B756
Light refreshments