



Pacific Institute *for the*  
Mathematical Sciences

# Emergent Research: The PIMS Postdoctoral Fellow Seminar

**November 4, 2020**

**9:30 AM Pacific / 10:30 AM Mountain / 11:30 AM Central  
Zoom**



PIMS is launching a new lecture series! Every three weeks, you will have the opportunity to connect with emerging research in the mathematical sciences from a PIMS Postdoctoral Fellow. PIMS PDFs are amongst the top young researchers in Canada, and this is an excellent opportunity to learn about them, and their work.



**Sergii Myroshnychenko, PhD**

PIMS Postdoctoral Fellow

**Shape recognition of convex bodies**

**Abstract:** A broad class of convex geometry problems deals with questions on retrieval of information about (convex) sets from data about different types of their projections, sections, or both. Examples of such assumptions are volume estimates, rigidity of structure, symmetry conditions, etc.

In this talk, we will discuss known results and recent developments regarding the dual notions of point-projections and non-central sections of convex bodies. In particular, we provide a partial affirmative answer to the question on a shape recognition posed by A. Kurusa, and discuss a generalization of V. Klee's theorem for polyhedra.

**Bio:** Sergii Myroshnychenko is a PIMS PDF (2019) in the Convex Geometry group at the University of Alberta. He obtained his Ph.D. from Kent State University in 2017 under the supervision of Dmitry Ryabogin. Sergii's main scientific interests lie in Convex and Discrete Geometry and related topics of Probability Theory.

**REGISTRATION:** <https://www.pims.math.ca/seminars/PIMSPDF>