

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MATHEMATICS

Geometric Analysis Seminar

Wednesday, November 3, 2021

4:00pm – 5:00pm **2-131**

Yair Shenfeld

(MIT)

**“The extremal structures of the Alexandrov-Fenchel inequality:
convex polytopes and beyond.”**

Abstract

Solutions to classical geometric variational problems are often unique and nice: the ball is the only shape which minimizes surface area among shapes of equal volume. But the solutions to the variational problems of the Alexandrov-Fenchel inequalities are conjectured to be non-unique and wild. I will talk about these variational problems, including their connections to areas outside of convexity such as analysis and combinatorics, and how we resolved some of their conjectured (due to R. Schneider) solutions. Joint work with Ramon van Handel.