ADAM SAGMEISTER, Bolyai Institute, University of Szeged & Alfréd Rényi Institute of Mathematics
Inequalities for ball convex bodies in planes of constant curvature

Bodies of constant width and reduced convex bodies have been studied broadly, as many of the extremum problems in convex geometry have their solutions within these classes of convex bodies. In this talk, we connect these concepts through ball convexity, and introduce the notion of r-ball reducedness. We discuss a ball convex extension of both Pál's classical isominwidth inequality and the Blaschke–Lebesgue inequality as well as its optimal stability. We also characterize r-ball reduced polygons, and prove several inequalities regarding their areas, perimeter, diameter, inradius and circumradius. The talk is based on joint works with Ferenc Fodor and Nathan Robock.