

Analysis and Convexity Seminar

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Title: Local sharp inequalities: development and applications

Abstract: In the talk I shall recall the global sharp inequalities for all dimensions ($n \geq 3$: sharp Sobolev inequality; $n = 2$, Onofri inequality; $n = 1$, the Sobolev and Blaschke-Santaló inequalities) and the analog versions on compact Riemannian manifolds (except $n = 1$ case), and the application to global geometry (the uniformization theorem on S^2 , the Yamabe problem, and the affine curvature flow problem). I will explain our new approach to establish these inequalities on S^n based on our local sharp inequalities.