

# VIRTUAL EAST-WEST SCV SEMINAR

March 9, 2021

Purvi GUPTA  
Indian Institute of Science

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## POLYHEDRAL APPROXIMATIONS OF STRONGLY $\mathbb{C}$ -CONVEX DOMAINS

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The asymptotic analysis of polyhedral approximations of convex bodies is a heavily explored subject in both affine and stochastic geometry. While many aspects of classical convexity have found analogues in several complex variables, the literature is relatively sparse on the matter of polyhedral approximations in the complex setting. In this talk, we will introduce a natural class of analytic polyhedra that are particularly suited for this kind of analysis on (strongly)  $\mathbb{C}$ -convex domains in  $\mathbb{C}^n$ . We will present some asymptotic results for both optimal and random approximations of a given strongly  $\mathbb{C}$ -convex domain by such polyhedra. In particular, we will emphasize the novelties of this setting — in comparison to both the strongly convex case, and the strongly pseudoconvex one (for which, a different polyhedral construction has been previously considered). The stochastic results in this talk are part of an ongoing project with S. Athreya and D. Yogeshwaran.

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