



DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Colloquium

ASYMPTOTICALLY CONICAL CALABI-YAU MANIFOLDS

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ABSTRACT:

Geometers are interested in finding the “nicest” shape that a manifold can have. For surfaces, this shape is usually the most symmetric, like the round sphere or the flat plane. In general there are different ways of characterizing precisely what a “nice” manifold is. In this talk I will focus on one such class of manifolds, namely “Ricci-flat Kahler” or “Calabi-Yau” manifolds. In the 1970’s, Yau proved that a compact Kahler manifold with vanishing first Chern class is Calabi-Yau, thereby proving a famous conjecture of Calabi. I will discuss extensions of Yau’s theorem to the non-compact world before discussing recent joint work with Hans-Joachim Hein (Muenster) classifying such manifolds modelled on a cone at infinity.

4 – 5pm, Wednesday, Nov 30, 2022
Room 204, Smith Hall