Mathematics and Statistics Seminar

Symplectic fillings of contact manifolds

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Whether counting the paths from one point to another or imagining the universe as a three-dimensional hologram of some two-dimensional reality, filling problems provide a fertile source of interesting mathematical questions. These problems ask us to determine the shape of a space from its boundary — or at least to decide the extent to which this is possible. In this talk, we will discuss filling problems in broad terms, enforcing various levels of geometric or topological nuance, with the primary goal of stating one particular filling problem: the classification problem for symplectic fillings of contact manifolds. Time permitting, we will present a recently-developed tool for approaching this problem, as well as a few of its many uses. The talk is intended to be widely accessible, and includes some joint work with M. Menke and Y. Li.

Wednesday February 1st
2:00 PM to 2:30 PM
Sequoia Hall 316