

Math Department Colloquium

February 11, 2008

Speaker: Maggy Tomova

(Rice University)

Title: Bridge surfaces, distance and thin position

Abstract: To gain information about a knot, we can study the space that remains when a neighborhood of the knot is drilled out of the 3-sphere. Decomposing this “left-over” space into simple pieces uncovers the presence of important surfaces that in turn allow us to determine some of the properties of the knot. Conversely, if we want to obtain a knot with certain properties, we can “build” its complement in a way that guarantees the knot satisfies the desired conditions. I will discuss some of the important results that can be obtained via these techniques.