The Trivial Notions Seminar
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Using Link Theory to Understand the Isotopies of Real Algebraic Curves

A talk by

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Abstract

One of the original motivations for the field of algebraic geometry was the study of real algebraic curves and their geometry. While it was soon discovered that working over the complex numbers was in many ways a lot nicer, some information is lost when we pass from $\mathbb{R}$ to $\mathbb{C}$. In particular, while every curve of genus g over the complex numbers is homeomorphic to the surface of genus g, a real algebraic curve of genus g can have anywhere between 1 and $g+1$ connected components, each of which is homeomorphic to a circle. Furthermore, we have the question of what possible nestings of these circles are allowed. While some constraints can be found directly, not enough are known in this way, and instead other methods will be used. We will take a look at a link theory that is useful in shedding more light on this problem.

Thursday Febuary 21$^{\text{st}}$, at 1:00 pm
Science Center 310