



Bi-Co Mathematics Colloquium

Kyle Hayden
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Young Alumni Lecture

"Braids in Algebra and Topology"

Monday, September 25, 2017

Talk at 4:00 – H109

Tea at 3:30 – KINSC Math Lounge, H208

Abstract:

Braids are not just for hair and challah; they are mathematically interesting objects in their own right. The study of braids has contributed to many areas of mathematics and has applications ranging from cryptography and fluid mechanics to literary analysis. Our story begins with a description of the abstract braid group discovered by Emil Artin in the early 1900's. Then we'll see how braids show up in topology, especially when studying knotted curves in three-dimensional space and surfaces in four-dimensional space. Finally, we weave these two threads together to see how a special subset of the braid group corresponds to a set of knots that arise when studying singularities of complex functions.

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