Student Seminar

Pi Mu Epsilon
& GAMECOCK MATH CLUB

Groups of Loops: They're Fundamental!

by Patrick McFaddin
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Patrick McFaddin

An effective method for studying geometric spaces is to probe them using simpler spaces, e.g., circles or loops (continuous paths in the space that begin and end at the same point). The collection of all loops is called the "fundamental group" and it records information about the basic shape of a given space. This talk will introduce the fundamental group of some familiar topological spaces and use these computations to answer the following question: is it possible to hang a picture on a wall from a string using two nails in such a way that removing either of the two nails will make the string and picture fall down?

Patrick is a Visiting Assistant Professor at USC. He earned his Bachelor's Degree at the University of Southern California and his Ph.D. at the University of Georgia. His research interests include algebra and algebraic geometry, and he is especially interested in borrowing techniques from topology to answer questions about algebro-geometric structures.

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