Group Theory, Topology, and Molecular Structure: Exploring the Intersection of Chemistry and Mathematics

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Both the study of group theory and of low-dimensional topology have profound applications to our understanding of molecular structure and reactivity in chemistry. Symmetry groups, in encoding the structural features of geometric objects, allow quantitatively adept scientists to predict the physical properties of molecules. The application of chirality, linking number, and embedded graphs from knot theory to geometrically complex molecules can be used to determine structure-activity relationships and even model the supercoiling of DNA. This presentation will explore the interface between chemistry and mathematics through a myriad of shapes, structures, and modeling fun.

Date: January 23, 2019
Time: 7:00 pm
Place: Park 328