

**DR. LEANNE MERRILL**

**THERE ARE INFINITELY  
MANY UNIVERSES ON MY  
BEACH BALL! SURPRISING  
FACTS, USEFUL TOOLS,  
AND NEW RESULTS IN  
TOPOLOGY**

**Topology traces its roots to the 1930s, when long-standing conjectures about homotopy groups of spheres were proven false, opening up an entirely new discipline in mathematics research. Since then, deep connections have been established between topology, algebra, number theory, and other mathematical areas. Most recently, tools from topology have been used in data science and computing. In this talk, I'll introduce some of the core concepts in topology, show how they are applied to other subjects, and discuss my own computational work on the homotopy groups of spheres. No prior knowledge of topology is required.**

**MARCH 7, 4:00 PM, BSS 166**

Dr. Leanne Merrill earned her B.A. and M.A. from the State University of New York at Potsdam in 2011, and her Ph.D. from the University of Oregon in 2017. She is interested in topology and its applications, and mathematics pedagogy with an emphasis on inclusion and equity. When she's not thinking about mathematics, she enjoys doing educational outreach work with underserved groups in STEM fields, performing classical music as a soloist and chamber musician, and hiking in the mountains.