Abstract

Topology of the configuration space $X$ of a robot is essential for programming its motion. It turns out that to get a motion algorithm of a robot one has to split the space of the ordered pairs $X \times X$ of its states in some number of pieces. This led M. Farber to his definition of Topological Complexity $\text{TC}(X)$ of $X$. In this talk we discuss the TC and its relation to some classical topological invariants like the Lusternik-Schnirelmann category.

This talk should be accessible to undergraduates.