Combinatorial Algebraic Topology

Combinatorial Algebraic Topology is concerned with computing algebraic invariants of combinatorially given cell complexes by combinatorial means. It arises from the quest for explicit descriptions of invariants in Algebraic Topology, and has applications in Discrete Mathematics.

In this talk we shall outline the general philosophy of Combinatorial Algebraic Topology and then proceed with illustrating it by an example. More specifically, we will introduce characteristic classes of certain spaces with a free involution as obstructions to graph colorings.

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