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*Face numbers and the fundamental group*

In this talk, I show two lower bounds of  $h_2$ -numbers of simplicial complexes in terms of the minimum number of generators of their fundamental groups. I will also explain a nice relation between the polyhedral Morse theory and graded Betti numbers, which is used to relate numbers of generators of fundamental groups and  $h_2$ -numbers.

This is a joint work with Isabella Novik.