Group cohomology and group actions on cell complexes

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Cohomology of groups plays an important role in studying group actions on topological spaces, and vice versa. I will try to illustrate this point by giving examples of some important theorems from both areas. Then, we will discuss a recent construction of a group action (joint with I. Hambleton and S. Pamuk) in which we replace some of the classical methods with new methods coming from homological algebra over orbit categories. Most of this talk will be accessible to a non-expert.