# Simplicial James-Hopf map and decompositions of the unstable Adams spectral sequence for suspensions

***Jie Wu*** *(National University of Singapore),*
`matwuj@nus.edu.sg`

The project was carried out in the PhD thesis of Fedor Pavutnitskiy. We use combinatorial group theory methods to extend the definition of a classical James-Hopf invariant to a simplicial group setting. This allows us to realize certain coalgebra idempotents at sSet$_*$-level and obtain a functorial decomposition of the spectral sequence, associated with the lower $p$-central series filtration on the free simplicial group.

The talk will aim to general audience, starting from the introduction of basic notions and techniques on the topic.