

# WHAT IS STABLE COHOMOLOGY TELLING COMMUTATIVE ALGEBRAISTS?

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ABSTRACT. Stable cohomology is a functor defined on pairs of modules over arbitrary rings and taking values in  $\mathbb{Z}$ -graded abelian groups. It is, from various perspectives, a natural completion of the classical Ext functor; its earliest avatar was Tate cohomology of finite groups. I will describe stable cohomology and discuss applications to modules over local rings. The talk is based on joint work with Luigi Ferrero, Srikanth Iyengar, and Oana Veliche.