

Colloquium

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Friday, September 10, 2010 at 3pm in Bell Hall 143

Stable Representation Theory

The goal of stable representation theory is to understand the space of finite dimensional, unitary representations of a discrete group Γ , after letting the rank of the representations tend to infinity. These representation spaces can be thought of as algebraic varieties, cut out by the relations in Γ , and after stabilization they show interesting connections to the cohomology of Γ . In this talk, we'll consider some specific examples of these phenomena arising from groups of Euclidean isometries (crystallographic groups) and fundamental groups of Riemann surfaces. We will also explore the broader context in which these examples fit, beginning with the origins of topological K -theory and the Atiyah–Segal Completion Theorem.