ALGEBRA SEMINAR

An introduction to representation stability and FI-modules

By

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Abstract: Given a sequence $\{G_n\}$ of groups and vector spaces $\{V_n\}$ where each G_n acts on V_n, representation stability studies the eventual/uniform behavior of V_n as a G_n-representation, as n varies.

One of the most robust and applicable variants is when G_n is the symmetric group on n letters, categorified by the framework of FI-modules. In addition to giving an overview of FI-modules and consequences of their finite generation, I will discuss applications such as the cohomology of configuration spaces and homology of congruence subgroups, where several stabilization results can be obtained even when explicit computations are lacking.

Date: Monday October 9, 2023
Time: 10:30
Place: SA141 - Mathematics Seminar Room