Topology, Algebraic Geometry, & Dynamics Seminar

Representation stability, homological stability, and commuting matrices

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Spaces of commuting matrices have received considerable attention in the last 20 years, starting with conjectures of Witten regarding their connected components. These spaces can be viewed as representation varieties, or character varieties, for free abelian groups, and their rational homology can be described quite explicitly in terms of classical Weyl group invariants. These descriptions expose a surprising stability pattern, and I'll discuss recent work (joint with Mentor Stafa) establishing a wide variety of homological stability results for these spaces and for other related spaces. These results are applications of the theory of representation stability, as developed by Church, Farb, Wilson, and others. No knowledge of representation stability will be assumed.

Date: **Friday, March 30th, 2018**

Time: **2:30-3:20 pm**

Place: **4106 Exploratory Hall**

For special accommodations, please contact Sean Lawton via email at `slawton3@gmu.edu`.